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ABSTRACT

The review of states' and local districts' progress in implementing the Education Amendments of 1976 regarding vocational education was the purpose of the Oversight Hearing on Vocational Education before the Subcommittee on Elementary, Secondary, and Vocational Education. Prepared statements and testimony were given by various persons, including the following: Gene Bottoms, executive director, American Vocational Association; James Galloway, assistant superintendent, Department of Adult, Vocational, and Technical Education, Illinois Office of Education, Springfield, Illinois; Robert Taylor, executive director, National Center for Research in Vocational Education, Ohio State University; and Robert Wood, superintendent, Boston Public Schools. (JH)

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ED 174826

OVERSIGHT HEARING ON VOCATIONAL EDUCATION

HEARING

BEFORE THE

SUBCOMMITTEE ON ELEMENTARY, SECONDARY,
AND VOCATIONAL EDUCATION

OF THE

COMMITTEE ON EDUCATION AND LABOR
HOUSE OF REPRESENTATIVES

NINETY-SIXTH CONGRESS

FIRST SESSION

HEARING HELD IN WASHINGTON, D.C., ON
MARCH 1, 1979

Printed for the use of the Committee on Education and Labor



U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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OVERSIGHT HEARING ON VOCATIONAL EDUCATION

THURSDAY, MARCH 1, 1979

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ELEMENTARY, SECONDARY,
AND VOCATIONAL, EDUCATION,
COMMITTEE ON EDUCATION AND LABOR,
Washington, D.C.

The subcommittee met at 9:15 a.m. in room 2175, Rayburn House Office Building, Hon. Carl D. Perkins (chairman) presiding.

Members present: Representatives Perkins, Murphy, Kildee, Williams, Kogovsek, Ashbrook, Goodling, Buchanan, Crane, and Hinson.

Staff present: John F. Jennings, counsel; Nancy Kober, staff assistant; Martin LaVor, minority senior legislative associate; and Charles Radcliffe, minority counsel.

Chairman PERKINS. The subcommittee will come to order.

The Subcommittee on Elementary, Secondary, and Vocational Education is conducting an oversight hearing today on the programs funded under the Vocational Education Act.

In the Education Amendments of 1976, Congress extended this Act through 1982. These amendments made some important changes in the legislation. They gave States more flexibility by consolidating several categorical programs, but also demanded greater accountability, especially in the areas of planning, evaluation and data collection.

The purpose of this hearing is to review States' and local districts' progress in implementing the new amendments now that we are at their midway point. This hearing is also particularly timely in light of Secretary Califano's statement last year that vocational education is one of the "least effective" of HEW's programs. Although it was rumored that the Administration had intended to propose a cut in the vocational education budget, the President's final fiscal year 1980 budget held vocational education at the same level as fiscal year 1979.

We hope that the testimony of the witnesses today will provide us with the information we need to determine whether vocational education is effective or not, what the need for vocational education is at the State and local level, and what improvements can be made.

In the budget that came up there is no allowance for inflation at all. That means a cut-back all the way across the board and possibly lay-offs in personnel. The waiting lists for admission to vocational programs, will grow larger and larger. So, we want to make sure that we beef up this budget this year. So far as I am concerned, I would personally like to ask for a substantial increase. But we will certainly have to go to bat for a reasonable increase. I hope that the evidence will justify the statement that I have just made.

As I understand it, Dr. Gene Bottoms, Executive Director of the American Vocational Association is going to serve more or less as moderator for the entire panel. I am going to call on you, Dr. Bottoms, to introduce the witnesses in the order that you see fit. Go ahead.

[The prepared statement of Dr. Bottoms follows:]

**STATEMENT OF DR. GENE BOTTOMS, EXECUTIVE DIRECTOR,
AMERICAN VOCATIONAL ASSOCIATION**

Mr. Chairman and Members of the Subcommittee:

I am Gene Bottoms, Executive Director of the American Vocational Association. On behalf of the 55,000 members who are directly involved in the delivery of vocational education services to youth and adults in the United States, I express appreciation to you for the privilege of appearing before you to recommend increased support for vocational education in FY 80. I am well aware of your long-standing interest in job training programs, and solicit your continued support.

Today as our country grapples with the serious national problems of inflation and unemployment, it would seem essential for Congress to make a major reassessment of the federal role in providing appropriate programs of education for work for all citizens.

At present, federal strategies for dealing with work-related concerns of our nation focus primarily on remedial programs designed to serve members of target populations who have already acquired the failure label. Support for these programs has grown from \$1.6 billion in 1970 to more than \$11 billion in 1977.

The second part of the federal approach, designed to bolster state and local support of programs of vocational education, is a preventive one. Federal support for this program has declined substantially during this decade in real dollars.

The consequences of this decline have been:

- o A restriction of program improvement activities designed to keep instructional media, curriculum and staff current concerning new scientific knowledge and technological processes being applied in the workplace.
- o A limitation of efforts to develop and expand vocational education programs in depressed rural and urban communities, to serve those populations most in need of preparation for work.
- o A weakening of educational opportunities for those groups of special federal concern. Depressed rural and urban communities continue to throw unskilled and unprepared youth into the labor market.

Yet vocational education has the capacity to help solve some of the most serious problems which are part of the vicious unemployment and inflation cycle. Some of these include:

1. A sharp decline since 1973 in the rate of increased productivity.
2. An inadequate supply of skilled workers to fill jobs currently available in many industries.
3. An abundance of work which is going undone because people lack the skill and vision that is needed to make jobs for themselves.
4. An all-time high rate of youth unemployment.
5. A movement of jobs out of many of our major industrial centers.
6. A decline in the rate of adoption of new technology in some industries.

with a resulting effect on our competitiveness in international trade.

7. The failure of nearly 500,000 small businesses annually.

The American Vocational Association, representing the nation's 300,000 vocational educators, believes that the time is at hand for an increased federal emphasis on programs that develop the capacity of people to become productive citizens.

Unless a better balance can be established between the nation's investment in remedial and preventive programs of employment training, the costs of remedial programs will continue to increase dramatically.

We believe that an expanded emphasis on preventive vocational education programs will also be of long-range value in slowing the pace of inflation and reducing the rate of unemployment.

In addition, the new federal thrust will be a strong incentive, as it has been in the past, to state and local communities to invest in this effort as partners in achieving an improved economy.

To correct this balance, what we are asking for today is that \$300 million be designated to boost programs of vocational education. We believe that such action will help substantially in reducing the flow of unskilled workers into the labor market.

Without this expanded support, the preventive system which the nation has today will decay and become ineffective.

We are not asking for an overall budget increase. We are asking for a more balanced approach to solving the nation's problems.

There seem to be four broad issues that mandate this increased investment in vocational education. Let us deal briefly with each:

1. SOARING COSTS

Programs designed to provide public service employment to people who have been unable to find jobs within the private business and industrial community is essential to this nation. We completely endorse the concept underlying the establishment of the Comprehensive Employment and Training Act (CETA). We welcome the increased emphasis on training established in the CETA amendments of 1978. Our nation needs--and must have--this remedial approach for working with people who are experiencing joblessness and poverty.

However, we know that this approach alone cannot be expected to provide the total solution to the employment problems of this nation.

Programs designed to rehabilitate people are by nature extremely costly. The figures show that the bill for our remedial efforts is soaring annually. Yet we continue to widen the gap existing between expenditures for remedial and preventive programs.

While the federal government obligated more than \$9.5 billion in 1977 for CETA, only \$534 million was spent on vocational education programs. These funds were matched, however, by \$4.4 billion in state and local funds to provide programs enrolling more than 16 million students.

For this small federal investment, the return to the nation has been immense. More than two million Americans completed vocational education programs in 1977. The cost to train these potential workers averaged \$308 per student, only \$33 of which came from federal dollars. The average cost per CETA participant was \$8,429. (See Table 3.)

As long as the federal emphasis is limited primarily to stop-gap solutions to job training and to maintenance efforts, costs will continue to soar. It is time for the government to place more emphasis on preventive programs in an effort to reduce the need for the more costly remedial assistance. Vocational education offers the major means to that end available in our nation.

2. ADDRESSING NATIONAL PROBLEMS

Reducing inflation and unemployment will require at least two actions that must be undergirded by strong programs of education for work.

Inflation is fed by decline in productive growth. In the President's 1978 economic report, the entrance of a large number of unskilled young workers into the labor market is cited as a major contributor to the decline of productive growth. Vocational education can reduce the number of youth who enter the labor market unskilled.

Inflation also is a result of competition among employers for a small pool of competent workers. Vocational education can help reduce inflation by providing training that will enable many who are currently unemployed to compete for available jobs.

Other national problems which relate to the overriding concerns of inflation and unemployment can also be addressed through vocational education.

An increased emphasis on technological programs offered through post-secondary vocational institutions can help accelerate the pace with which many of the nation's industries are able to adopt new technology.

Reducing unemployment requires renewed emphasis also on developing the capacity of people to make jobs for themselves.

We know that small businesses are the principal source of new ideas, new economic growth and of new work in our nation. A study by the M.I.T. Development Corporation comparing job formation between giant companies, large companies and small new companies, showed overwhelmingly that small new companies produce the most new jobs for the nation.

There are innumerable individual cases of vocational program graduates beginning their own businesses and creating jobs for others. Marvin Feldman,

president of the Fashion Institute of Technology in New York City, has data from follow-up on graduates of his prestigious institution showing that many of his graduates start their own businesses. He states,

"We find--retrospectively--that we have not prepared them for jobs. We have prepared them to create their own jobs."

From all indications, these benefits from vocational education are widespread, but poorly reported. The Congress may do well to request additional examination of this area of the vocational system's productivity.

3. BUILDING COMMUNITIES

The major strength of vocational education lies in its capacity to bring about extensive community revitalization. Communities which today have a permanent on-going capacity to offer quality comprehensive and intensive programs of vocational education at the secondary, postsecondary and adult levels testify to this fact.

These communities are dealing successfully with problems which are troubling other parts of the nation--youth unemployment, special needs of the disadvantaged and handicapped and the search for economic stability and growth.

The major community benefits derived from strong programs of vocational education are economic. Let us talk about a few.

Vocational education contributes to a favorable business climate by educating new workers who possess the necessary basic education, technical competencies and attitudes needed to be productive workers and responsible citizens.

Effective programs are closely in tune with the needs of the private business sector. Cooperative vocational education programs coordinate instruction with on-the-job training to provide the strongest possible learning experience.

As needs of the business and industrial community change, vocational education can serve to strengthen the existing economic base of the community by providing programs designed to upgrade the skills of existing workers.

In many states vocational education has forged an invaluable link to the economic development needs of communities by training workers to the specifications of new and expanding businesses and industry.

Small business entrepreneurs also benefit from vocational education through programs, often offered on-site, to help them develop the management skills necessary to succeed.

While building up invaluable benefits for the business community, vocational programs provide the payoff for individual citizens that is just as great.

Data show that vocational education graduates obtain employment quicker and experience fewer and shorter periods of unemployment than other high school graduates. At the same time, adults who have access to vocational programs are able to keep pace with expanding technology and upgrade their skills on a regular basis, thus increasing their productivity and promotability and reducing their chances of becoming unemployed.

4. BUILDING A STRONG FEDERAL, STATE AND LOCAL PARTNERSHIP

The concept of a federal, state, local partnership for the provision of vocational education has been one of the great strengths of the program. Yet today that partnership is in jeopardy.

Since 1972 federal support for vocational education has declined in real dollars (See Table 2). During this period the shrinking investment has been spread over expanded federal demands--increased accountability, more extensive planning, greater interaction with labor, a stronger focus on target groups.

While federal support has been shrinking, support at the state and local level has mushroomed. Despite Washington interest group lobbying, HEW doubts, and concerns of some Congressional observers, local support continues to grow. The programs are meeting the perceived needs of those controlling state appropriations and voting on local bond issues.

In 1972 each federal dollar was matched by \$4.71 in state and local dollars. In 1977 the match for each federal dollar was \$8.30. (See Table 4.)

The predominance of state support over federal support has been cited by some federal officials as a reason for reducing even further the federal investment. These critics of federal support assume that state support is more than adequate to do the job that must be done.

While it is true that state support in most cases has grown substantially, it is important to note that increases in state and local expenditures have been directed primarily to offset inflation, provide for rapidly increasing student enrollments and build new facilities. Increases have not been adequate to respond to the specific needs of emerging vocational education systems or the requirements of the vocational education program as a component of the total educational program.

Unlike the approach to basic educational skills, many local communities have never committed themselves to offering all persons access to comprehensive programs of vocational education. As late as 1977, access to pre-employment vocational education was limited to 33 percent of public secondary school students while studies show that actually 50 percent of these students could benefit from such training. In 1976, postsecondary enrollment was limited to 12 percent of those 20 to 24 years of age, and to a mere 4 percent of those 25 to 64 years of age. Clearly, many more people in these age categories also need vocational education and would have participated if it had been accessible to them.

The start-up cost for vocational education programs is greater than for other educational programs. Without federal support for new program development, expanded access to quality programs, especially in depressed communities, is not likely to be developed.

In addition, the cost to state and local communities of developing, maintaining and improving programs of vocational education is greater than for other programs. Historically, states have assumed that federal funds would 1) serve as a catalyst in new program development and 2) pay the differential cost needed to keep vocational programs current with the demands of the workplace.

Despite the declining balance of federal and state/local dollars, the federal government has continued to place growing demands on vocational education by increasing the range of programs and needs expected to be covered. It is evident that this stretching cannot go on without grossly weakening and undermining the intent of the legislation. As currently funded, vocational programs cannot carry out the improvement intent of the legislation.

Building a strong partnership now requires federal initiative. Executive branch actions without consultation, actions taken without systematic planning, actions contrary to the current program support intent of Congress will only damage the existing system. Through federal legislative action, the federal/state/local relationship can be strengthened and the future of a viable training system ensured.

The American Vocational Association Assembly of Delegates endorsed three resolutions committing its efforts to giving special emphasis to three broad areas: youth, adult workers and program improvement. We are committed to targeting these three areas for the allocation of additional funds.

Let's examine why funds should be distributed among these areas and how increased emphasis on these areas can help to address major national problems.

YOUTH

Young Americans see themselves maturing into self-sufficient, productive, stably employed citizens. But for many, that dream has been replaced by a sense of hopelessness and despair. For still others, that despair has turned into bitter preoccupation with the moment, a refusal to think or plan ahead, a total rejection of the future. For whatever self-preserving reason, more and more of today's teenagers are less certain of productive roles in our society.

This dangerous condition is reflected in current labor market statistics, which show unemployment falling for all major categories except for youth. And the highest youth unemployment occurs in our sparsely populated rural areas and in the inner cities with a population higher than 500,000.

Yet these are the very areas where American youth have less access to quality vocational education programs. These inner cities, for example, have 22.8 percent of the population, but only 13.3 percent of secondary and 10.6 percent of postsecondary vocational education training stations, according to a 1977 study conducted by Alan Woodruff for the U. S. Office of Education.

We would therefore like to see \$100 million targeted for programs designed to help youth make the school-to-work transition.

We think the money should be spent in these areas:

Cooperative Vocational Education. As developed over the past several decades, cooperative vocational education is an effective program for coordinating on-the-job skill preparation with related school instruction and personal development. Persons receiving labor market information, job-seeking instruction and thorough cooperative vocational education have markedly higher earnings and occupational status as young adults than do students without such preparation.

Today, approximately 700,000 youth participate in cooperative vocational education, and most are placed in the private sector for on-the-job training. Upon completing their schooling, a full 50 percent of them stay on with their existing employers.

Increased funds would allow communities--especially depressed communities--to hire additional cooperative coordinators to develop private sector training sites, coordinate the in-school learning and expand cooperation with CETA programs.

Career Guidance. One area that needs strengthening is job placement. Hard-to-place youth (both in-school and out-of-school) would benefit from having career resource centers in their communities where they could obtain educational and labor market information and supportive counseling. Although the career information center is a popular notion in federal legislation, most current funding is on a limited project basis.

Considerable emphasis must be given also to the assessment component of guidance. It can provide an individualized, prescriptive education and career plan to aid the vocational instructors and others who work with youth to provide them the best kind of educational training.

Youth Enterprises. Currently a number of vocational education programs are providing youth with an opportunity to learn and earn through self-employment or through a student managed enterprise. In depressed communities where youth unemployment runs exceedingly high and community placements are insufficient, vocationally-based youth enterprises could enable students to gain the labor market experience. Increased federal investment would make it possible to establish youth enterprises as an extension of existing vocational education programs.

Basic Skills. Studies show that employability skills are closely linked to basic skills including both verbal and mathematical skills. Increased vocational appropriations would allow vocational education institutions to expand the support staff to teach these related subjects.

Institutional Capacity. Vocational and occupational education is not accessible enough in many depressed communities because the communities have not been able to make the necessary capital investments. They have faced and continue to face declining tax bases and growing burdens in welfare, police and fire protection and housing.

A greater federal investment is needed if these depressed communities are to help themselves. It would enable the communities to employ the additional staff needed to allow existing vocational education facilities to be used during the summer, on weekends, and in the afternoon and evening. It would enable depressed communities to work with employed workers and graduates in developing their promotability to advanced jobs, thus freeing entry-level jobs for hard-to-place youth.

ADULT WORKERS

To see vocational education's mission fulfilled, we must see adult vocational education programs expanded. Vocational education served only 4 percent of the labor force through adult programs in 1976. A close examination of enrollments by state reveals considerable unevenness in providing those adult programs, with Iowa serving 10.6 percent of the labor force and the District of Columbia serving less than 1 percent.

Today, adult vocational education is too often treated as something that is done if any time or resources are left after other phases of the program have been planned. In the mid 1960's, adult enrollments represented nearly 50 percent of vocational enrollment. Since then it has decreased to just 27 percent of the total enrollment.

The failure to make adult vocational education an integral part of the local community educational service stems partly from a lack of vision by educational and civic leaders, but it also shows a lack of national emphasis. Current federal legislation addressing vocational education and training focuses virtually all its efforts on youth and unemployed adults. There is no recognition that adult vocational education directed at strengthening the promotability of existing workers is essential to opening up entry-level jobs for the unemployed.

Therefore, we would ask that \$100 million be allocated for adult education programs. We would see the money used in these areas:

Outreach. Too frequently vocational education programs for adults have been limited to serving those persons who show up to take courses on campus. With expanded financial support, vocational education institutions could initiate outreach programs--especially in depressed communities. Such programs

should be designed to reach potential adult students in their community environment, establishing the vocational education institution as a community institution.

Counseling. Adult vocational education students also need the benefits of career assessment and counseling to develop their own potential and to find ways to become mobile within the current job market.

"Shifts" in Schools. Under-utilized school facilities are one of the greatest resources we have to provide expanded services for adults. Currently, in comprehensive high schools in cities with a population of 500,000 or more, labs are used 8 hours per day. Vocational high school labs are used nine hours or less per day, and area vocational centers are used ten hours or less per day.

The use of these facilities could be doubled with the hiring of two complete staffs--both administrative and teaching--to provide vocational education training for two complete school days in each 24-hour period. The second "shift" could be devoted to adult programs to enable the adult worker who is employed during the regular school day to have access to quality programs during the non-working hours.

Adult Survival Skills. The socio-economic changes in our society that create the two-working-adult household, the single-parent household, and the individual-adult household create a vast need for new consumer and home-making skills. The community-based vocational education institution is uniquely qualified to develop these skills.

PROGRAM IMPROVEMENT

Vocational education has proved itself as one of the nation's best resources. We should be seeing farsighted national initiatives aimed at developing the capacity of this resource. Instead, we see a federal policy that if extended into the 1980's will seriously diminish the effectiveness of vocational education and the investments that have been made.

The current federal posture toward vocational education can best be described as one of neglect by policymakers. The consequences of this policy are clear. Federal support in real dollars for vocational education has been declining since 1972, and if the trend continues the present system will lose its capacity to respond, it will be paralyzed.

One of the historical priorities in education at the national level has been to promote excellence in education generally. Vocational education does not differ from other aspects of education; it too has its strengths and weaknesses. The field would welcome national leadership that facilitates continuous growth towards excellence.

The existing legislative emphasis on excellence and accountability can be achieved by redirecting current federal support. Progress toward these national goals will require increased appropriations. In effect, two priorities are in conflict. On one hand, the vocational community is told to serve additional numbers of special population students, while at the same time it is told to increase its overall effectiveness and efficiency without additional federal funds.

To insure that vocational education can continue to carry out its mission, we are asking for \$100 million earmarked for program improvement.

Programs of National Significance. There are five major activities supported under the Programs of National Significance--all designed to improve vocational education programs:

- 1) The Center for Research in Vocational Education. The National Center for Research in Vocational Education at Ohio State University is mandated by the Education Amendments of 1976 for a five-year period. The national center:
 - a. Conducts applied research and development on such topics as eliminating sex bias, improving state planning, and improving vocational education for the handicapped, minorities, and women;
 - b. Conducts an advanced study center for training postdoctoral students to study national issues and a national academy to provide short-term training for leaders in vocational education on such topics as job creation, guidance, and teacher education;
 - c. Disseminates information and products to the state research coordinating units in the 57 states and territories and to local school systems on such topics as metrics in vocational education and instructional materials for agricultural and trade and industrial education;
 - d. Conducts policy analyses and organizes information for national decisionmaking about the needs for curriculum development, teacher training needs, enrollment trends, and cost of vocational education.
 - e. Serves as a clearinghouse for state and federal as well as military instructional materials;
- 2) Fellowship Programs. The fellowship program has two types of awards: The Graduate Leadership Development Awards for experienced vocational educators, and the Teacher Certification Fellowship resulting in the certification of teachers.

- 3) Curriculum Coordination Centers. Six curriculum coordination centers are being supported to assist each of the 57 states and territories.
- 4) Applied Projects and Demonstrations. The major purposes of the applied projects are to develop and disseminate materials for new and changing occupational areas and to produce information about national problems in vocational education for decision and policy level purposes at the state and national levels.
- 5) National Occupational Information Coordinating Committee (NOICC) and 57 State and Territory Occupational Information Coordinating Committees (SOICC). Created by the 1976 Education Amendments, this system is designed to improve state planning by using occupational information and to provide up-to-date information for students to use in making career decisions about occupations.

Instructional Media. To maintain quality programs of vocational education, instructional media must constantly be upgraded to keep it current with constantly changing technology. We must remember that science and technology have produced changes in all fields of work:

- a. space (electronics)
- b. environment improvement (automobile manufacture and repair),
- c. energy (solar),
- d. natural resources (recycling), and
- e. computers (word processing and information retrieval).

Labs built ten years ago are out of date today.

Mr. Chairman, is it not in the nation's interest to keep labs up-to-date so the more than two million annual completers of vocational education programs do not go into the labor market out-of-date?

Instructor Training. With the need to constantly upgrade laboratory equipment goes the need to upgrade the training of vocational education instructors. Some program improvement dollars are needed to provide trained instructors to use the new equipment and to anticipate changes that new technology will bring.

State Planning Grants. The 1976 Education Amendments established state planning grants to provide funds for the state agencies to involve constituent groups, educators and others concerned with vocational education in the planning process. An increase in appropriation for the state planning grants would insure that the states are able to make responsive and responsible plans that serve the needs of the states.

In conclusion, vocational education is working extremely well to meet the responsibility mandated by Public Law 94-482. Yet there is much to be done. The American Vocational Association respectfully requests that Congress lend its support to the task. Thank you for your consideration of the recommendations offered by the AVA. We are available to assist you in any way that we can and offer our services to you or your staff if we can expand upon the ideas and recommendations set forth in this testimony.

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FACTS AND FIGURES ON VOCATIONAL EDUCATION

1. What is Vocational Education?

Vocational education is not a single program. It is an in-place set of public educational programs forming a national institutional-based training and educational delivery system. When correctly managed and used, it offers a powerful tool for job and skill training able to contribute significantly to the national concerns of productivity, employment, job creation, and long-term economic planning.

Currently, vocational education serves over sixteen million students: 9.5 million at the secondary level; 2.3 million at the postsecondary level; and 4.2 million adults.

Vocational education is made up of eight major occupational program areas offering 153 instructional programs that prepare people for hundreds of occupations. These programs exist in all fifty states, the District of Columbia, and five territories. They are being offered in more than 7,500 institutions (with six or more vocational courses each) including

- 4,878 comprehensive high schools
- 225 vocational high schools
- 1,248 area vocational centers
- 310 area vocational schools
- 162 technical institutes
- 720 Community and junior colleges

In 1977, expenditures for vocational education totalled \$4,962,555,070 with \$4,428,944,514 contributed by state and local governments and \$533,610,556 contributed by the federal government.

2. Are more people being served by vocational education than in previous years?

Yes. More people are being served by vocational education programs than ever before. A total of 16,134,979 students were enrolled in FY 1977 as compared to 12,072,445 in FY 1973, an increase of 34%.

Table 1. Enrollments in Vocational Education by Level

<u>FY</u>	<u>Total</u>	<u>Secondary</u>	<u>Postsecondary</u>	<u>Adult</u>
1973	12,072,445	7,353,962	1,349,731	3,368,752
1974	13,555,639	8,433,750	1,572,779	3,549,110
1975	15,340,426	9,426,376	1,889,946	4,024,104
1976	15,133,322	8,860,047	2,202,800	4,069,575
1977	16,134,979	9,562,836	2,363,194	4,208,949
Percent Increase 1973-1977	34%	30%	75%	25%

Source: U.S. Office of Education

3. Do Federal dollars provide enough support to carry out the intent of Federal legislation?

No! Despite increased demands of the 1976 vocational education legislation with regard to the accountability, state/local planning, sex equity, postsecondary and CETA liaison, Federal funding has actually decreased.

Table 2. Federal Expenditures for Vocational Education
in Actual and Constant Dollars

Consumer Price Index			Federal Expenditures for Vocational Education			
Year		Percent Annual Increase	Actual (Inflated) Dollars		Constant (1971) Dollars	
			Reported	Percent Annual Increase		Percent Annual Change
1971	121.3		\$393,926,863		\$393,926,863	
1972	125.3	3.3	465,334,274	18.1	450,480,804	14.4
1973	133.1	6.2	481,817,114	3.5	439,079,936	-2.5
1974	147.7	11.0	549,922,290	10.4	451,629,180	-2.9
1975	161.2	9.1	588,369,540	7.0	442,736,311	-2.0
1976	170.5	5.8	620,822,654	5.5	441,678,069	-0.2

Sources: ¹ Consumer Price Index (Table B-50). Economic Report of the President. Washington, DC: U. S. Government Printing Office, 1978. p. 314, in The National Center for Research in Vocational Education, *The Status of Vocational Education, School Year 1975-76*, Columbus, 1978. ² U.S. Office of Education, Forms 3131 and 8011, FY 1971-1976.

Federal expenditures are generally reported in actual dollars. When these amounts are adjusted for inflation, only once in the past six years has there been a major increase in federal funding for vocational education. Table 2 presents this adjustment. The table shows the Consumer Price Index for the years 1971 through 1976, the reported federal expenditures for these years, and these expenditures in terms of constant 1971 dollars, adjusted for the effect of inflation reflected in the Consumer Price Index.

When actual dollars are adjusted to constant dollars, it is clear that the only major increase in federal support occurred in 1972. In that year, federal expenditures increased 14 percent over the previous year, even after adjusting for inflation. Increases in the years since 1972 have not kept pace with inflation. Consequently, in 1976, the federal expenditure, expressed in constant dollars, was less than it was in 1972.

4. How do federal investments for vocational education compare to those for other educational and training programs?

While vocational education programs at times cost more per participant than other secondary and post secondary programs due to the extra cost of equipment, supplies and the lower pupil/teacher ratios, they are actually more efficient than other training programs offered outside the school.

Table 3. Approximate Federal Investment
Per Client of Various Education
and Training Programs

<u>Program</u>	<u>Approximate Federal Investment Per Client</u>	<u>Approximate State and Local Investment Per Client</u>
Vocational Education	\$ 33.07 ¹	\$274.49 ¹
Comprehensive Employment and Training (CETA)	8,429.00 ²	-0-
Job Corps	9,090.00 ³	-0-

¹U.S. Office of Education, Bureau of Occupational and Adult Education, FY 1977

²U.S. Office of Education, OAE, "Response to the 'Evaluation Summary of the Vocational Education Grants to States Program,' 1978.

³1980 U. S. BUDGET IN BRIEF, p. 48

5. Do the state and local governments pay their fair shares?

Yes! Despite Federal decreases, state and local governments continue to increase their support of vocational education. In this regard, vocational education programs are a model of the potential role of federal leverage, particularly when it coincides with state and locally perceived needs.

The federal share of vocational funding has decreased in the last decade from 18.6% to only 11.55% of total vocational education expenditures with state and local sources overmatching this level at an average ratio of 8 to 1. (This amount ranges from \$33.62 per federal dollar in Florida to \$1.37 in the District of Columbia.)

Table 4. Amount of State and Local
Matching Per Federal Dollar

1971	1972	1973	1974	1975	1976	1977
\$4.92	\$4.71	\$5.29	\$6.33	\$6.53	\$7.68	\$8.30

Percent increase 1971-1977: 69%

Source: U. S. Office of Education

Although state and local overmatching is a positive sign in terms of commitment to vocational education and success of federal leveraging, state and local governments are gearing their expenditures to meet their own needs and not always those identified by the federal government as national priorities. For example, state and local governments are focusing on keeping up with inflation, increasing general enrollment, and constructing urgently needed facilities, and funding has not been adequate to offset the cost difference as needed to maintain, and improve programs. If the national priorities of increased accountability, elimination of sex and racial discrimination, coordination of programs with manpower training efforts, recruitment of handicapped and disadvantaged students, expansion of planning efforts, development of programs in depressed areas, and improvement of overall program quality are to be implemented, additional federal dollars will be necessary.

6. Are vocational education programs actually preparing people for work?

Yes. All vocational education programs prepare students for work, although not all are geared toward immediate, paid employment. For example, Consumer and Homemaking programs prepare males and females for their unpaid roles as full- or part-time homemakers and consumers.

Exploratory programs such as those in industrial arts and prevocational agriculture help students with career decisions that generally lead to employment-oriented coursework.

Yet, the percentage of students enrolled in programs geared for immediate, paid employment is 64%.

There is considerable evidence that those vocational graduates who desire immediate, paid employment upon completion of their programs are able to acquire jobs. Only 5% of the FY 1977 completers who wanted to work were identified as unemployed in followup studies.

Table 5. Placement of Program Completions
in Vocational Education FY 1977

Status	Number	%
EMPLOYED	1,090,304	49%
-- Fulltime in field for which trained or related field (35% or 778,424)		
-- Other employment (14% or 311,880)		
CONTINUING EDUCATION AT HIGHER LEVEL	381,916	17%
NOT AVAILABLE FOR PLACEMENT FOR REASONS OTHER THAN CONTINUING EDUCATION	145,882	7%
UNEMPLOYED (Seeking Work)	114,272	5%
STATUS UNKNOWN	491,813	22%
Total:	2,224,187	100%

Source: U.S. Office of Education

7. Are vocational education programs sensitive to and able to change towards emerging areas of employment need?

Yes. An analysis of vocational education enrollments between 1972-1977 shows that three of the eight major areas are rapidly expanding in response to labor market needs:

<u>Program Area</u>	<u>% Increase 1972-1977</u>
Health Occupations	50.8%
Office Occupations	39.1%
-- Data Processing, Communication and Storage Occupations (34.5%)	
Technical Occupations	30.4%

Table 6. Vocational Education
Enrollments in New and
Emerging Occupations

<u>Occupational Area</u>	<u>FY 1972</u>	<u>FY 1977</u>	<u>% Increase</u>
Surgical Technology	-	3,522	-
Occupational Therapy	-	2,892	-
Nuclear Medical Technology	-	400	-
Ophthalmic Occupations	-	1,657	-
Environmental Health	-	5,192	-
Medical Emergency Technology	-	70,514	-
Mortuary Science	-	1,788	-
Fire & Safety Technology	8,826	28,714	225%
Electronic Occupations	97,936	147,267	50%
Law Enforcement Training	74,801	109,535	46%

Source: U. S. Office of Education

Question 7, continued

- A 1977 study by the American Association of Community and Junior Colleges (AACJC) and the U.S. Energy Research and Development Administration showed that vocational education students are being trained in many key energy-related areas including coal mining technology, nuclear energy, petroleum technology, laser optics, solar energy, energy conservation, and geothermal energy technology (National Advisory Council on Vocational Education, 1977).
- The Vocational-Technical Education Consortium of States (VTECS) was chartered in 1973 in response to the need for current, individualized, job-specific instructional materials. Using systematic development procedures, VTECS members perform on-the-job task analyses of occupations, validate the tasks through worker surveys, develop performance objectives and performance guides for the tasks, and subject the results to field review by prospective users. VTECS has analyzed 124 occupations and surveyed 12,150 workers as a basis for developing its 70,000 catalogs and related materials. The materials are distributed to the 17 member states and the training components of the Air Force, Army, and Navy. All use the catalogs to develop new programs and revise existing technical education curriculum in order that programs will be sensitive to the needs of employers.
- Recent studies in Ohio and Georgia indicate that more than 75% of employers surveyed prefer to hire vocational graduates over nonvocational graduates, suggesting that the preparation provided students is appropriate for employer needs.

8. What evidence is there that vocational graduates have an advantage in the labor market over non-vocational graduates?

There is considerable evidence that vocational graduates have a strong advantage. For example,

- A national survey of 23,000 students, the U. S. Office of Education's Longitudinal Study of the High School Class of 1972, reported the following:
 - Vocational graduates generally require less time to secure their first jobs and then outearn other students.
 - Most vocational graduates report that their training was important in the acquisition of their first jobs, and the great majority rate this prior experience high.
 - Students from vocational programs find greater relevance in their education in terms of job expectations than do students in other curricula.
 - "Overall, graduates of the vocational curriculum seemed more satisfied with their jobs than did graduates of other curricula."
- Vocational students "obtain their first jobs more quickly and, subsequently, experience fewer and briefer spells of unemployment than others with a high school education" (Reubens, B.G. "Vocational Education: Performance and Potential," MANPOWER, July 1977, p. 905).
- In 1976, the youth unemployment rate for high school vocational completers was 13.5% as opposed to the 19.9% national rate for all 16-19 year olds. The rate for postsecondary completers was 8.2% as compared to 13.6% for all 20-24 year olds. (Project Baseline 1976 Annual Report)
- Vocational education trained students, when unemployed, have shorter periods of unemployment. (Project Baseline Annual Report)
- In West Virginia, high school vocational graduates have an unemployment rate of 13% as compared to 20% for nonvocational graduates. A total of 93% of the graduates from postsecondary vocational education programs find jobs in areas related to their instruction (West Virginia Department of Education).
- A 1978 survey of employers in Ohio revealed that a majority
 - hire vocational graduates for positions which nonvocational high school graduates could not fill without further training
 - find vocational graduates more technically skilled than nonvocational graduates
 - believe that vocational graduates exhibit greater employability skills than nonvocational graduates

Question 8, continued

- (76%) express a hiring preference for vocational graduates over nonvocational graduates
- A study by the Georgia Advisory Council on Vocational Education revealed that 98% of employers in Georgia prefer to hire a graduate of a comprehensive high school that combines vocational and academic preparation instead of a graduate of a strictly academic high school.
- A Massachusetts study credits vocational high schools with producing male graduates who outearn their nonvocational counterparts by \$1,378 per year (U. S. Office of Education).
- A 1974 Ohio study comparing the earnings of 4,879 vocational program graduates to all working graduates their same age found that males and females earned a higher mean income of 25% respectively.

Table 7. Average Incomes of Ohio
Vocational Graduates Compared
All Working Graduates in
Same Age Group

	<u>Working Vocational High School Graduates</u>	<u>All Working Graduates in Same Age Group</u>	<u>% Difference</u>
Males	\$6,887	\$5,514	25%
Females	\$4,324	\$3,362	28%

Source: (Ghazalah, I.A. LONGITUDINAL STUDY OF VOCATIONAL EDUCATION GRADUATES AND UTILIZATION OF FEDERAL INCOME TAX DATA, Columbus, Ohio: Ohio Department of Education, Division of Vocational Education, 1978).

9. Can vocational education programs aid economic growth and development

Yes! In more than 20 states to date, the availability of vocational education has been an incentive for businesses to locate or expand in a particular area.

- A 1978 Congressional study of 300 firms in ten major U. S. cities revealed that the quality of the cities' schools and the availability of skilled workers were two of the top nine factors that influenced firms to stay or expand within their present locations.

Table 8. Importance of City Characteristics to Businesses
in Deciding About Locations

Rank	City Characteristics
1	City government attitude toward business
2	Crime level
3	Adequacy of public facilities
4	Market demand for product or service
5	Adequacy of public services
→ 6	Quality of city's schools
7	Cultural attractions
8	Cost of energy
→ 9	Availability of skilled workers
10	Personal tax rate
11	Local property tax rate
12	Labor cost
13	Corporate tax rate
14	Availability of professional employees
15	Cost of financing
16	Personal ties to local neighborhood
17	Cost of land
18	Tax depreciation
19	Availability of unskilled workers
20	Availability of investment tax credit
21	Availability of short-term financing
22	Availability of land
23	Availability of long-term financing
24	Existence of labor unions
25	High education level of workers
26	Low education level of workers

Source: Central City Business--Plans and Problems. A study prepared for the use of the Subcommittee on Fiscal and Intergovernmental Policy of the Joint Economic Committee, Congress of the United States, January 1979.

Question 9, continued

- In order to provide a more positive climate for business and industry, many state departments of education incorporate industrial development into their state vocational education programs. These programs are operated in conjunction with local or state development agencies, local and state chambers of commerce, and local governments. These groups bring the industries in; vocational education develops skilled workers for them.
- West Virginia: According to Governor John D. Rockefeller IV, "The program of vocational education has proved to be a vital link in the chain of economic development in West Virginia. . . Vocational education provides the skills needed by the people of our state to become productively employed, and provides the training essential for business and industry to remain competitive."
- Alabama: Fred F. Denton, Jr., state industrial development coordinator, has stated, "It's one of the very finest tools we've got. . . We've actually gotten many plants that we would not have gotten before" (NATION'S BUSINESS, November, 1978).
- South Carolina: 485 new firms have been attracted to the state in the last 15 years largely due to the availability of vocational education. A total of 59,351 new jobs was created for which vocational education did the training.
- Iowa: In a much newer program, 23 firms have relied on vocational education for training people in 941 new positions.
- Oklahoma: 432 firms have been attracted, and vocational education has trained individuals for 35,901 of their jobs. According to NATION'S BUSINESS, during the fiscal year 1977 alone, the state's Voc-Tech Department trained 6,200 people for jobs with 53 new firms that had invested \$553 million in the state. From the state's viewpoint, that is an investment of \$89,000 per job. . . Even without the initial company investment, each job would pay back to the state more than \$132 in one year in state income taxes--even if all 6,200 trained last year earned only \$5,000 each. And that figure does not include the spending power of the new wage earners. Some are on the company payrolls before they finish their training (NATION'S BUSINESS, November 1978).
- Georgia: The industry services program has cooperated with 327 new or expanding industries to train 18,966 workers in the 29 area vocational schools. According to J. D. Fowler, industry coordinator for the Division of Vocational Education, "We figure we recoup the money in six months to two years. That's in personal and corporate taxes, the welfare and unemployment reduction is hard to nail down" (NATION'S BUSINESS, November).
- Florida: Multinational corporations are also being influenced by the presence of vocational education programs. Currently, the Utility Power Corporation (UPC) is building a \$150 million plant in Palmetto, Florida. UPC's parent corporations, Kraftwerk Union of West Germany and Allis Chalmers of Milwaukee, selected Florida largely because the promise of cooperation from area training

Question 9, continued

schools was significant according to Jesse Burt, acting coordinator for Florida's Division of Vocational Education, Industry Services Program.

- **Maryland:** In addition to attracting new or expanding business, vocational education programs can help revitalize existing industry, like the dying coal fields of western Maryland. Maryland's Industrial Training Program, offered through the state Department of Education's Division of Vocational-Technical Education, is cooperating with the Mettiki Coal Company in training workers at Garrett Community College, twenty miles from a mine. Mettiki expects to hire 400-500 people by 1980, and training officials estimate that each mining job will be supported by two other jobs in retail, professional and educational services.
- **Minnesota:** When the railroad running through Staples, Minnesota, closed in the early sixties, the town's major source of jobs closed. The remaining job base, agriculture, was not sound because of a water shortage. Under the guidance of the local superintendent of schools, vocational agriculture programs in farm management and agricultural technology were developed, along with a special program to train irrigation technicians. A chain reaction began: Irrigation technicians needed wells; the school system trained well drillers. The irrigated farmland increased production, consuming seeds, fertilizers, and chemicals. The expanded production required more machinery with the technicians to run and repair them. A larger volume of agricultural products created a greater demand for marketing facilities, including transportation and storage. At each juncture, the local vocational education programs were increased to meet the needs of the ever-expanding economy.

10. How well have vocational education programs moved to implement the intent of the 1976 amendments with regard to sex equity issues on program access?

Major increases are apparent in the numbers of women entering vocational programs traditionally marked by low access. FY 1976-77 figures show major percentage gains as shown below:

Table 9. Female Enrollment in
"Nontraditional" Areas

Program	Total FY 76	Female	Total FY 77	Female	% Increase
All Programs	15,133,322	7,750,135	16,134,979	8,276,518	7%
Cooperative	147,572	48,804	155,636	58,955	21%
Agriculture	1,059,717	109,951	1,056,259	156,985	43%
Technical Educ. (all programs)	484,807	44,135	519,537	88,069	99%
Trade & Industry (all programs)	3,109,950	338,389	3,246,688	466,865	38%
Auto Mechanics	365,534	13,325	368,720	18,397	38%
Electronic Occup.	140,173	5,221	147,267	10,626	103%
Supervisor & Mgt. Development	112,991	15,216	89,391	22,986	51%

Source: U. S. Office of Education

At the same time, the number of women enrolled in "traditional" vocational programs (Consumer and Homemaking and Gainful Home Economics) decreased 7.8% between 1972 and 1976.

There has also been some shifting in the enrollment patterns of males. Between the years 1972 and 1976, for example, the number of men enrolled in Consumer and Homemaking and Gainful Home Economics increased by 229.3%.

As of January, 1978, each State Department of Education has a full-time person appointed to help eliminate sex bias in vocational education. These state coordinators are working to monitor all personnel laws prohibiting discrimination and to gather, analyze and disseminate data on the status of male and female students and employees.

11. How is vocational education responding to the needs of disadvantaged and handicapped students?

A. Enrollments

Enrollment figures for FY 1977 show an increase in the numbers of disadvantaged and handicapped students enrolled in vocational education programs.

Table 10. Enrollment of
Disadvantaged and Handicapped
Students in Vocational Programs

	FY 76	FY 77	
	Total	Total	% Increase
Disadvantaged	1,873,411	1,956,011	+4.4
Handicapped	284,067	344,041	+21.0

Source: U.S. Office of Education

There has been an impressive doubling of handicapped enrollments over the last decade, yet these numbers do not reflect the actual number of handicapped students served by vocational programs. The true picture is even better.

Due to the structure of reporting methods in the past, enrollment figures cited to date indicate only those students who are provided with special services in order to succeed in vocational courses; they do not indicate how many handicapped students have been mainstreamed. It is anticipated that institution of the new Vocational Education Data System (VEDS) will identify all handicapped students enrolled, causing enrollment figures to increase and present a more accurate picture (BOAE, "Response to the Evaluation Summary of the Vocational Education Grants to States Program," 1979).

B. Expenditures

Federal, state, and local dollar support for handicapped and disadvantaged students in 1977 shows an increase over 1976 figures:

Question 11, continued

Table 11. Vocational Education Expenditures
for Disadvantaged and Handicapped Students

	FY 76	% by level of gov't supp.	FY 77	% of Total Expenditures
Disadvantaged	322,197,943	100%	386,556,853	100%
Federal	100,990,331	31%	110,157,920	(28%)
State/Local	221,207,612	69%	276,398,933	(71%)
Handicapped	120,201,718	100%	124,165,580	100%
Federal	48,562,842	40%	46,433,639	(37%)
State/Local	71,638,876	60%	77,731,941	(62%)

Source: U.S. Office of Education

12. Is vocational education serving minority students?

Yes. There has been a substantial increase in the numbers of minority students who enroll in vocational programs. This has been largely due to more active recruitment of minority students and improvements in guidance and counseling programs.

Table 12. Enrollment of Minorities
in Vocational Education

<u>Minorities</u>	<u>1972</u>	<u>1977</u>	<u>% Change</u>
American Indian or Alaska Native	83,074	107,999	+ 30%
Black, not of Hispanic Origin	1,660,585	2,357,497	+ 42%
Asian or Pacific Islander	98,962	177,800	+ 80%
Hispanic	735,516	1,046,262	+ 42%

Source: U. S. Office of Education

13. Are adults being served by vocational education?

Yes. Total adult enrollments have shown a steady increase. Between FY 1976 and FY 1977, there was a 3.4% overall increase in the number of adult vocational students.

Table 13. Adult Enrollments
in Vocational Education

	<u>FY 76</u>	<u>FY 77</u>	<u>% Change</u>
Total	4,069,575	4,208,949	+ 3.4%
Preparatory	865,461	847,774	- 2.0%
Supplementary	3,026,191	3,178,285	+ 5.0%
Apprenticeship	177,923	182,890	+ 2.8%

Source: U. S. Office of Education

These increases are important and encouraging, yet several concerns must be highlighted.

1) Adult enrollments are not expanding at a rate that should be expected in light of the growing number of adults in the society. Vocational education served only 4% of the labor force through adult programs in 1976, and a close examination of enrollments by state reveals considerable unevenness in the delivery of these programs. For example, Iowa Served 10.6% of the labor force, and the District of Columbia served less than 1%.

2) The number of adults in preparatory programs, i.e., those that prepared them specifically for employment, dropped in FY 1977.

3) In 1977, the total number of disadvantaged adults increased, but those in preparatory programs decreased 16.1%. (See Table 14.)

4) The total number of handicapped adults as well as the number in preparatory programs also decreased. (See Table 14.)

Question 13, continued

Table 14. Enrollments of Adult
Disadvantaged and Handicapped
Students in Vocational Education

	<u>FY76</u>	<u>FY77</u>	<u>% change</u>
Total Adult Disadvantaged	413,449	464,884	+12.4%
Preparatory	139,744	117,193	-16.1%
Supplemental	265,807	339,429	+27.7%
Apprentice	7,898	8,262	+4.6%
Total Adult Handicapped	42,280	37,206	-12.0%
Preparatory	27,275	14,963	-45.0%
Supplemental	14,593	21,499	+47.2%
Apprentice	412	744	+80.6%

Source: U.S. Office of Education

These statistics indicate that national initiatives and support are clearly needed to expand the capacity of the adult vocational education to serve more adults.

14. What is Consumer and Homemaking Education contributing to the social and economic needs of local communities?

In response to federal legislative intent, Consumer and Homemaking Education enrollments in economically depressed areas and areas with high rates of unemployment have increased: 1,361,420 students in FY 1976 and 1,500,535 in FY 1977.

- Among the local target groups now being served in Consumer and Homemaking Education programs are:
 - Persons in economically depressed areas and areas with high rates of unemployment
 - Older Americans
 - Disadvantaged and handicapped persons
 - Youth and adults in correctional institutions
 - Single parents and school-aged parents
 - Displaced homemakers who want to enter or reenter the labor force
 - Males and females who want to enhance their roles as full- or part-time homemakers
- According to the U. S. Office of Education, the number of males enrolled in Consumer and Homemaking Education went from 287,763 in 1972 to 947,592 in 1976, an increase of 229%.
- Ohio: Family life/parenthood education programs assist poor families in inner cities and rural Appalachia to improve the conditions in their homes in order to break the poverty cycle. The number of participants in the program has increased from 1,199 in FY 1968 to 25,487 in FY 1977.
- Florida: In an Orlando, Florida program, nutrition education is combined with senior citizens' activities. Over 1,100 older Americans are fed daily by secondary consumer and homemaking education students, with supplementary programs provided in consumer education, food preparation for the elderly and other consumer and homemaking skills.
- Wisconsin: "Operation Nutrition Education for Families" is carried out by the Milwaukee Area Vocational, Technical and Adult Education District to teach family members to use their food dollars wisely in planning and preparing nutritionally sound meals. The North Central Vocational, Technical, and Adult Education District in Wisconsin teaches basic consumer and homemaking skills to disadvantaged people in every corner of the district with its "Classroom on Wheels."
- Kentucky: Eighteen programs featuring such seminars as Management-Consumer Education and Personal and Family Development are taught in community colleges, state vocational-technical schools, and area vocational-technical centers. Requests for additional programs have been turned down because the consumer and Homemaking funds have run short.
- Idaho: Nampa Senior High School, Idaho, has developed a program for teaching nutrition education to elementary students by utilizing secondary consumer and homemaking students as teachers. Although only one school offered the program during its initial year, it proved so successful that in subsequent years all elementary schools in the Nampa School District have participated in the nutrition program.¹⁵

15. What evidence is there that vocational education graduates often go into business for themselves?

Thousands of vocational education students, instead of or after becoming wage earners for employers, strike out on their own and become self employed. These entrepreneurs in turn hire their own employees and contribute in a number of ways to the nation's economy.

Statistics are not yet available on the number of such vocational graduates, but the following represent some of the current efforts of vocational education to prepare business owners:

- To combat the high failure rate of new businesses, the University of Minnesota's Agriculture Education Division began a long-term project to develop, test, evaluate, and disseminate an instructional program in small business management education patterned after the university's successful farm management education effort.
- The program is now underway in more than 30 schools in 9 states
- 75% of the enrollees continue into the second year and 80% or more of the second year students continue to the third
- According to Edgar Persons, director of the Minnesota program, for each dollar spent in the program in 1974, the community received a net return of \$12.
- Connecticut: Hartford public school students work for pay in 15 businesses operated within the school system. These learning ventures include and auto center, a storm window manufacturing and installation service, a loan company, a bakery, and three school stores.
- Minnesota: Entrepreneurs are being developed in Minneapolis, where junior high students run restaurants and other businesses through three in-school "Technical Centers," and high school students run an auto repair shop and a drycleaning establishment.

Here are just a few examples of the new entrepreneurs prepared by vocational education:

- Janis Oliver, a graduate of Havre High School, Havre, Montana, is successfully pursuing a career in fashion merchandising. She, along with her sister, owns and manages J-Fashions, a fashion shop in Havre.
- Barbara Clark, a graduate of Springfield High School, Springfield, Oregon, has opened "The Gingham Dog and the Calico Cat" in Ladeview. She does custom tailoring, designs clothes, and sells antiques, jewelry and plants.
- Bob Frausto, a graduate from Laramie High School, Laramie, Wyoming, is planning expansion of his growing Mexican restaurant, the "El Conquistador." Bob attributes his fast success to the learning experiences of his two-year training in distributive education, one of the vocational education instructional programs.
- Mike Quinn, a graduate of Eisenhower High School, Hopkins, Minnesota, has bought out Larsons men's Clothes shop. Mike previously worked at Larsons as a salesperson. Mike is still involved with the local DECA Chapter and hires some of its members.
- Blake Blyth, a graduate of Franklin High School, Franklin, Virginia, is now owner of his own business, Blake Ford. In addition to being the owner of his own business, Blake is the youngest Ford dealer in the U.S.

STATEMENT OF DR. GENE BOTTOMS, EXECUTIVE DIRECTOR, AMERICAN VOCATIONAL ASSOCIATION

Dr. BOTTOMS. Thank you, Mr. Chairman. We express our appreciation to you for giving us this opportunity to present our case to you.

Chairman PERKINS. Make sure you talk into that microphone there.

Dr. BOTTOMS. We have submitted some very detailed testimony in which we have tried to answer some 14 major questions about the bill and its current status, and the adequacy and effectiveness of programs. What I would like to simply do here in just a few moments is to highlight some of the major points in that, and then introduce the other members of the panel to you.

We have agreed that we will limit our comments to about ten minutes each, and that these will be more or less conversation-kinds of comments, so we can interact with you in terms of whatever questions that you might have.

Chairman PERKINS. All the statements will be inserted in the record. But, it would be helpful if you could summarize the statements.

Dr. BOTTOMS. Mr. Chairman, our primary objective this morning is to present our case. We are requesting a \$300 million increase in appropriations for vocational education. We are not necessarily asking that the Federal budget be increased. Rather, we are asking that the Congress take a step towards a more balanced strategy in the manner in which it is seeking to deliver its employment and training program—vocational education being perceived as a preventive strategy—and other programs more remedial in nature.

As you go back to 1972 and you trace the Federal investment in this field, you will see that in terms of real dollars the Federal investment in vocational education has declined. Yet, we have seen in the remedial strategies the Federal investment go from just over \$1 billion to somewhere in the neighborhood of \$11 billion in FY 1979.

Now, some have argued that there is not a need for Federal investment in this field because State and local expenditures have kind of made up the difference. It is true that State and local funds have grown substantially, from about \$5 for each Federal dollar in 1971 to just over \$8 in 1977. But, you have to look to see why that has occurred. Since 1973 we have had a 34 percent increase in enrollment in this field. In addition, we have had a decline in purchasing power of the dollar. Primarily State and local funds have been used to just maintain their portion of what has been a historical partnership between the Federal government and State and local government in delivering this program. The consequences of the declining Federal support have meant that there have not been dollars to derive the benefits of some of the changes in the new legislation, some of the changes needed to have quality programs, to develop new programs, especially in depressed communities where access is still limited to many groups.

In making our request for \$300 million we suggest that the Congress consider targeting this request along three lines: That approximately \$100 million be targeted to youth, particular emphasis to disadvantaged youth in some of our major depressed rural and urban communities; that a second \$100 million be directed towards adults—unemployed, under-employed and employed adults—again with an emphasis on depressed rural and urban communities. We urge that a third \$100 million be directed towards improving of

existing programs. We are especially concerned that the Congress follow the intent of the authorizing committees in appropriating funds for the national significance portion. In addition to that, some of our laboratories and some of our programs and curricula are fast getting out of date because of the many forces that—

Chairman PERKINS. Have you asked to testify before the HEW Appropriations Committee?

Dr. BOTTOMS. Yes, we have asked.

Chairman PERKINS. It is not been made final yet, but you ought to make sure you get there.

Dr. BOTTOMS. We expect we will be there.

Chairman PERKINS. Be sure to go there to make that point, and go in force. That is my suggestion to you. Go ahead.

Dr. BOTTOMS. We appreciate that suggestion and shall make a special note of that, Mr. Chairman.

We submit four arguments for the increase.

First, that the cost for Federal remedial strategy is going to continue to increase unless we are able to expand the accessibility to vocational programs in some of our more depressed communities. For example, the inner cities of this country in which there are over 500,000 people, twelve percent of the nation's vocational training stations are located in these communities while 22 percent of the people are there.

The second argument we submit is that there are certain emerging national needs that can be more appropriately met by the preventive strategy. Today the unemployed are not able to get the available jobs because they do not have the skills. Employers are bidding against each other for skilled workers. Many of our vocational facilities, because of inadequate resources, are not operating in the evening and in the summer to help upgrade existing workers.

Our third argument is that a community that has a high number of youths unemployed today is not likely to change that situation unless we have some Federal investment there to help those communities to develop their capacity to reduce that flow.

I submit as our fourth argument that unlike the remedial, strategy vocational education is a partnership program with State and local communities in which the Federal government is a minor partner. It always seems to me that you give more attention to national concerns when you can get State and local leaders more actively involved.

If you examine the AVA testimony you will find evidence of the effectiveness of vocational education. Mr. Chairman, it is not a perfect program—I have found few things are in this world—but I have to ask myself, where is a system that is more effective in this nation?

We ask for an opportunity to continue to address national concerns and to improve our effectiveness.

This morning we have with us Mr. Jim Galloway, the State Director of Vocational Education from Illinois, who will present the case from a State perspective for increased Federal investment.

We also have with us Dr. Robert Wood, the Superintendent of Schools of the Boston City School System. Dr. Wood is a former Under Secretary of HUD, a former president of the University of

Massachusetts-Harvard-M.I.T. Joint Center, and he will talk about the need for Federal investment to increase quality programs and program accessibility, particularly in a major American city.

The third person we have, Mr. Chairman, is Dr. Davis, who represents an area vocational school. As a consequence of your vision and leadership and that of the committee in 1963, in the 1963 Vocational Education Amendments you made it possible for the area vocational school concept to emerge across this country.

Chairman PERKINS. Let me interrupt you just a minute, Dr. Bottoms, to introduce to you—which I am sorry that I failed to do—to the Ranking Minority Member on the Subcommittee on Elementary, Secondary, and Vocational Education, Mr. Goodling from Pennsylvania. He has had much experience in this area. He once served as a school board member up there, as I recall, for several years. Go ahead.

Dr. BOTTOMS. Thank you, Mr. Chairman.

One of our fine institutions is the Technical Institute in Wisconsin. We have the director of that school with us today, Dr. Dwight Davis, who is from Congressman Obey's district and he will present the case, the results declining Federal appropriations are going to have in his program, keeping his program up to date.

We have with us, Mr. Chairman, a businessman, a person who heads up the chamber of commerce program from your own State, from the "Bluegrass" section of your State, Congressman Natcher's district, Mr. Harold Huffman. He will talk about the use that he makes of vocational education in that district as a means to hold jobs in communities, and to attract jobs.

We also have this morning Dr. Bob Taylor from the Ohio State Center. Federal funds have been a major catalyst over the years in improving the quality of vocational education, and he will present the case for increased appropriations along that line.

We have with us this morning Ms. Mavis Kelley from the State of Iowa, from the district of Congressman Neal Smith, and she will present the case in terms of increased Federal investment as it relates to consumer and home economics. There are several factors that make for quality communities, and the family certainly has to be one of the foundations.

Mr. Chairman, 25 years ago the big city school district of this country was envied by the rest of us who grew up in Appalachian regions, but today the inner-city school system represents a major frontier for those of us in education. I have been impressed with what the City of Detroit has been attempting to do, and their plans to change the flow of youth into the work place, being prepared.

We have with us today two gentlemen from there, Dr. Melvin Chapman, the Assistant Superintendent for Instruction, and Mr. David Hart. They will present to you their needs and their visions of how they can improve the potential of youths from that system entering into work.

At this time I will call on Mr. Jim Galloway, the State Director from Illinois, to share with you his thoughts.

[The prepared statement of James R. Galloway follows:]

TESTIMONY PRESENTED
TO THE
HOUSE SUBCOMMITTEE ON ELEMENTARY, SECONDARY
AND VOCATIONAL EDUCATION

VOCATIONAL EDUCATION IN ILLINOIS: ITS SUCCESSES AND ITS NEEDS

by

James R. Galloway
Assistant Superintendent
Department of Adult, Vocational and Technical Education
Illinois Office of Education
Springfield, Illinois

March 1, 1979

Chairman Perkins and Committee Members:

I am James Galloway, Assistant Superintendent for Adult, Vocational and Technical Education, Illinois Office of Education, State of Illinois.

It is indeed an honor to be invited to appear before you today to present testimony on the very viable and extensive system of vocational education in Illinois.

I would like to commend you, Congressman Perkins, and members of this Committee for conducting this hearing. It seems like only yesterday that you conducted a similar hearing in Springfield, Illinois, prior to the passage of the '76 Act. It was a privilege for me at that time to be a member of that audience and to learn firsthand of your support for vocational education. I am gratified that support continues for a system that has - and is - benefiting not only the citizenry of this great Nation but its economic health as well.

Upon passage of the 1963 Vocational Act and, consequently the 1968 Amendments, the State of Illinois, in desiring to implement Congress' intent, radically changed its philosophy, organization, program concepts, and funding. Where once students were screened out of programs, today students are screened into programs - programs that provide in a logical sequence career information, exploration, orientation and preparation for the world of work.

Additionally, the State Agency began to involve an ever-expanding representation of different organizations and groups interested in and benefiting from vocational education. The local educational agencies were called upon

to involve a greater variety of participants. The State Agency, with the assistance of these many persons involved, organized, tested and implemented a system of planning and evaluation that has resulted in an expanded and improved system of vocational education. Today's programs are unprecedented in the involvement of the community, business and industry, labor organizations - as well as - special interest groups in the conduct of meaningful programs. And as a greater degree of success is obtained in all of these efforts, support has dramatically diminished.

It is this concern that I share with many others who have been involved in vocational education over the years and upon which I would like to focus my testimony. That concern is the diminishing role that the federal government is playing in the heretofore great partnership between state and federal governments for the conduct of vocational education programs in this Nation.

In the fifties and sixties, the federal-state partnership provided as much as 50% of the support to our states' programs. Since that time, that support has diminished to less than 20%.

Please permit me to share with you some of the more significant achievements in recent years of that partnership. First, from the human development perspective:

The magnitude of the Illinois vocational education program has grown considerably in the past 10 years. Even in the last five years we have experienced an enrollment growth of more than 25%. In 1978, over 700,000 secondary, post secondary and adult level students participated in 13,500 vocational programs offered in 780 local agencies.

• Of the 75,315 high school students who completed programs in 1977 and were followed up, only 4.7% were unemployed as of March 1, 1978. Similarly, of 20,569 post secondary students who completed programs in 1977, only 2.4% were unemployed. Although unemployment rates varied, as of February 1978, the state's unemployment rate for persons 18 - 24 years of age was 12.8%.

A Commercial Art graduate from the Alton Area Vocational Center recently hired three other graduates to work for him in his own business. That is job development, which is an aspect of vocational education that is seldom considered. I, for one, intend to pursue that aspect over the next year or two.

• An evaluation of 153 local educational agencies in 1978 by teams of educators, business, industry, labor representatives and students (a component of Illinois' 3-Phase System of Vocational Education Evaluation) showed that 77% of the secondary schools evaluated provided special services for disadvantaged and handicapped youth in vocational education. Additionally, of the nearly 3/4 million students enrolled in 1978, slightly over 19% were of racial and ethnic minority groups. Illinois, for example, has the 5th largest off-reservation Indian population in the country - many of whom are poorly educated and live in poverty on the near north side of Chicago. They require the special vocational education services provided by Chicago City Colleges through a grant from our office - a federal vocational education grant.

• Of over 9500 students surveyed last year during the conduct of our evaluations, more than 90% of those students expressed satisfaction with their programs, so much so that they would and are recommending that their peers enroll. More significantly, however, our data showed that over 85% of the

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same students indicated that their vocational program selection and career choices were indeed related. The fact that 70% of secondary students in Illinois have elected to enroll in one or more vocational education courses during their secondary career signifies and provides evidence of the interest on the part of students for vocational education.

A high school senior from southern Illinois possibly sums it up best - and I quote - "If I had it to do over again, I would take more vocational education for I want to get a job when I graduate."

In 1975, nine Illinois school districts entered into a joint network venture to demonstrate how vocational education programs and services could be provided for disadvantaged and handicapped youth. In a statewide dissemination conference in Chicago, which was designed to help other districts by sharing unique ways of providing supportive services to students, over 600 educators participated. Through these nine demonstration sites, we have learned that no one packaged answer is available for working with special needs populations but that successes observed from alternative educational services can and must be shared by all educators. In 1978, over 156,000 disadvantaged students were served in regular vocational education programs in Illinois. Additionally, over 25,000 handicapped students were provided with special supportive services while enrolled in a vocational education program. These are students identified by local educational agencies as requiring special services to help them succeed in vocational education programs.

Last year, in consortium with two of the state's Prime Sponsors of CETA, we opened two Displaced Homemakers Centers. Their effectiveness is perhaps

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best depicted by a 40-year-old public aid recipient in Chicago who had recently become divorced and was supporting an 8-year-old child. The displaced home-maker center helped her to become more self-confident and assertive as well as provided her information on how to seek employment. She sought employment and has taken a full-time job with a neighborhood tailor where she matches her sewing skills with a rewarding career.

- Another cooperative CETA/vocational education endeavor in Will County is providing invaluable pre-employment skills to high school students. Students in three school districts are helped in attaining those skills necessary to succeed in the work force and placement services are offered as they begin to look for jobs. A mutual partnership exists to help students of all ages expand their career options. Cooperative CETA/vocational education activities have been implemented in practically all 51 community college campuses and 31 secondary area vocational centers in the state.

- Since 1972, male enrollments in gainful home economics programs have almost tripled. Over 12,000 young men are now training for rewarding careers in the food service, clothing, child care and other home economics-related programs. Programs designed to help students consider careers in non-traditional fields have just begun to show success.

- The Illinois Department of Mental Health and Developmental Disabilities has recognized the value of vocational training in the rehabilitation of its residents. Acquisition of skills, knowledge and attitudes conducive to employment are an integral part of the training process. In 1978, almost 7800 persons were served in children and family services, correctional and mental health

facilities in Illinois. A major study of vocational education in Illinois correctional institutions showed that the community college programs are well received and are providing excellent services to students relative to cost.

Many non-traditional cooperative education programs are offered by local educational agencies that provide for the needs of target groups. Programs include supervised work experience and related instruction for 14- and 15-year-old academically disadvantaged youth, activities designed to help high school dropouts find jobs, special work experience programs for handicapped youth and work-study programs designed to help students in need of financial assistance. Over 3600 students participated in these special programs in 1978, resulting in dropouts returning to education, 14- and 15-year-olds staying in school with better attendance records, attitudes and levels of achievement, and handicapped youth learning to earn.

In a selected sample of over 950 parents of high-school-age youth, more than 60% felt that their local school had provided sufficient information so that their sons and daughters could make a decision regarding employment or further their education. One parent stated, "...my daughter has decided to go into interior design at our local community college. Up until this time, she really had no idea what she wanted to do." Parents overwhelmingly support vocational education as an integral part of the school curriculum.

These are just a few success indicators from a human development aspect of the state's vocational education system. The successes and progress of vocational education should also be judged from the economic aspect as well.

Vocational education provides not only a pool of trained personnel to maintain the labor force of businesses and industries of Illinois; it is also increasing its efforts to serve the needs of new or expanding business and industry. In essence, we find that vocational training not only makes for a more productive, satisfied work force but also that the increased productivity ultimately benefits the Illinois employer.

Again, specific examples can be provided to show how vocational education benefits the economic health of Illinois and of the Nation:

In 1978, over 38,000 cooperative vocational education students earned an estimated \$65 million during the 36 weeks of the school year calculated on 15 hours of work per week at the minimum hourly wage. Sales tax alone on \$65 million would total over \$3.2 million. State income tax would generate another \$1.6 million. It is estimated that cooperative vocational education students returned more funds to the state's general revenue than was reimbursed to local schools to operate the program. The placement rate of cooperative students surpasses that of those in classroom training.

As described earlier, unemployment rates among vocational education graduates at all ages are lower than among persons not receiving vocational training. Increased employment not only increases the buying power of Illinois' citizens but it increases the state's resources while decreasing expenditures for financial assistance programs. The Illinois State Chamber of Commerce suggests that "any investment in the vocational education program from the public sector will be returned many times over by generating new tax dollars

from an extended tax base.... As Illinois companies earn profits and their employees earn wages, the tax revenues can be generated to provide expanded public services."

A High Impact Training Program, supported with federal vocational education monies, has been implemented to bridge the gap between the vocational education expertise of the public sector and the private sector's need for new employees. Simply stated, short term (high impact) vocational training is provided to new and/or expanding business and industry in Illinois to stimulate economic growth. Since the program's inception in 1978, over 400 persons have been trained and employed in more than 400 jobs created by new or expanded business and industry in Illinois. Estimates based on comparable data provided by the Illinois State Chamber of Commerce show \$8.1 million more personal income per year generated in Illinois, which in turn generated over 1/2 million dollars in state revenues and one million in federal revenue.

Public sector vocational training and private sector employment endeavors are evident in many Illinois communities, e.g:

- Highland Community College in northern Illinois is working with Anchor-Harvey Components, Inc., to train 80 employees as machinists, forge operators and production machine operators.
- Lincoln Trail College is working with Standard Grigsby, Inc., in southern Illinois to train 28 new employees for direct labor or supervisory positions.
- Lake Land Community College in central Illinois is cooperating with a new industry in the area, Kal-Kan, Inc., to develop an individualized

training program for their employees. Kai-Kan will eventually employ 120 trained factory workers at its Mattoon facility.

A recent telephone survey of over 500 Illinois employers and workers generated a list of 27 basic skills which are necessary for minimum acceptable performance in an occupation. Characteristics such as punctuality, dependability, getting along with others, and giving an honest day's work emerged as important attitudes of a good employee. Materials have been developed to help vocational educators teach these and other important occupational survival skills to students. All-out efforts are underway in Illinois to provide businesses and industries with employees who possess acceptable "hands on" and attitudinal skills.

Additionally, a 1977 survey of 211 employers, including 118 who employed over 100 individuals, indicated that they have a favorable opinion of their employees who had had vocational education training. Over 60% of the employers responded that in their opinion, local educational agencies were satisfactorily meeting their training needs.

A few examples have been provided to help in describing the wide diversity of vocational education programs in Illinois. Vocational education is simply an investment in people through programs that benefit society and contribute to the economic health of the state and Nation. This investment must be made early in the life of an individual to capitalise on 30 - 50 years of productive life, before unemployment becomes a way of life, whenever an individual's skills are obsolete or need upgrading, whenever an individual is interested in upward occupational mobility, or whenever an individual is changing his/her career.

Preparing people to succeed in a rapidly changing technological work force is a major challenge. How well that challenge is met will be judged, in part, by the resources that are provided to public education at the federal, state and local levels.

Results of a recent study conducted in Illinois clearly point out the needs of students for expanded vocational education training. Surveys indicated that students see a need for more vocational education course offerings in high school. This finding is consistent with evidence showing that over 60% of the 3000 students responding to the survey intend either to enter the work force immediately after graduating from high school or continuing their education in vocational education at the post secondary level. Parents of these same students feel that local high schools should offer more vocational education and more adequate counseling and guidance for career planning.

These two groups--students and parents--express two dominant themes. First, a need exists to increase the accessibility of vocational education programs to all ages. Particular attention should be focused on adults who want to upgrade their existing skills or acquire new skills. Second, the special career planning services offered to students of all ages should be significantly expanded. Career planning and pre-employment skills, systems for more effectively placing vocational graduates, and stronger linkages between the business, industry, labor, government and educational community should all be improved.

Additional needs exist for a variety of special populations. Residents of correctional facilities are seeking longer training programs, increased access to publications describing jobs and how to get them, and a greater variety of

vocational education offerings. Each of these incentives can ultimately affect recidivism and off-ground motivation. Students with limited English-speaking ability need expanded programs that provide "vocational" English as a second language. More emphasis and incentives need to be placed on encouraging males and females to explore occupations non-traditional for their sex without undue social pressure to conform. The list could go on.

Expanded resources could benefit the quality of vocational programs offered to students. Many local educational agencies are not able to provide facilities and equipment comparable with that used in business and industry.

Expenditures required to up-date and replace equipment for vocational training in the Chicago public schools would, for example, require a substantial capital outlay. It has been estimated that \$1 million per high school per year for 60 high schools for three years is needed to upgrade Chicago's vocational education programs.

In the five-county-tier region of southern Illinois, often described as one of the most economically depressed areas in the country, students suffer from a lack of training opportunity. Distances between schools in this region are often too great to promote adequate sharing of facilities, equipment and staff. In spite of these constraints, students in Pope County travel to the Vienna Correctional Center for the opportunity to enroll in auto mechanics. Students in Johnson County travel to the little community of Joppa for a Nurses Aide program. Students recognize the value of vocational education and should have the opportunity to participate in up-to-date, accessible vocational programs.

In Illinois last year, 37 vocational education programs were forced to close for lack of funds and a shortage of staff. Many of these programs closed for lack of staff were in the agricultural and trades areas. Teacher-training institutions are working to alleviate staffing needs often with very limited resources available to support their efforts. A composite evaluation was prepared in 1978 and represented the combined work of over 900 evaluation team members at 153 different educational institutions. The evaluation report stated that, "although staff development programs exist in slightly more than one-fourth of the agencies visited, most are not specific or detailed and there is a need for more formalized professional development plans with increased opportunity for staff development...." Clearly, future and present educators in Illinois require expanded programs for upgrading and retraining.

At a time when vocational education can most effectively serve the Nation, the states and local educational agencies find themselves in an expanded role of bearing the cost of providing effective programs and services. In 1978, state and local educational agencies in Illinois were forced to assume 95.2% of the cost of providing vocational education to their students. The federal share amounted to an additional 4.8%.

In 1979, appropriations at the state level for vocational education were increased by over \$8 million - a 40% increase. Illinois lawmakers clearly established vocational education as their priority. The United States Congress should review their role in the vocational education partnership. Each of the partners will have to place a priority on funding for vocational education to maintain and to increase the quality and accessibility of the Nation's primary public job training system.

STATEMENT OF JAMES R. GALLOWAY, ASSISTANT SUPERINTENDENT, DEPARTMENT OF ADULT, VOCATIONAL AND TECHNICAL EDUCATION, ILLINOIS OFFICE OF EDUCATION, SPRINGFIELD, ILLINOIS

MR. GALLOWAY. Congressman Perkins, members of the committee, it is indeed an honor to be invited to appear before you today.

It seems like only a few days ago that you conducted a similar hearing in Springfield, Illinois, and at that time I was privileged to be a member of that audience and learn first hand of your support. I am most grateful that that support continues for a system that has and is benefitting not only the citizenry of the nation but the economic health.

I would also commend the Congressman and his State of Kentucky, Ashland, Kentucky and Ashland Oil also cooperating in Illinois with the conduct of vocational education programs. At Pinckneyville, Illinois, in 1976 we implemented a program of a subsidiary of Ashland Oil, Arch Minerals. It is supporting a vocational program in that small rural Southern Illinois community where, out of 500 high school students nearly 90 students are interested in reclamation and mining programs, coal mining programs, in that State.

I would like to present this publication to counsel, Jack Jennings, for you to review.

Chairman PERKINS. We are going to get it right now.

[The article referred to above follows:]

Energy harvest

'Hands on' education: Students study energy harvest

A rolling stretch of Illinois land that was once a coal mine has become a classroom. There are no desks, blackboards or books in use there. Instead the students work with the soil and heavy equipment. Their study is one of today's most timely subjects—reclamation.

The program is innovative. It is the only one in Illinois and one of the first in the nation. It offers a three year vocational program in Mining Occupations and Land Reclamation to students at Pinckneyville Community High School.

Like most formal education, the work begins at the school. There, in the academic year, the students are taught reclamation principles, surveying, mining history, safety and equipment maintenance as well as the myriad of laws that regulate the industry.

Then for 20 summer days they are bused to Arch Farms, an agricultural management subsidiary of Arch Mineral Corporation which is a 50 percent-owned affiliate of Ashland Oil, Inc. In this open air classroom they work eight hours a day studying soil, water and life support systems while learning safe, efficient operation and maintenance of heavy equipment.

Both Arch Farms and Pinckneyville are located in Perry County where mining has a special mystique. Perhaps it stems from the enormity of the work and the size of equipment like Arch Mineral's 6360 shovel. With its 180 yard bucket, the shovel is the world's largest, towering on the horizon like a singular skyscraper. Or maybe it is the magnetism of contrast with the surrounding farm land cloaked with

quiet timelessness.

Whatever the lure of the mines, it is nourished in Pinckneyville where traffic moves unhurriedly down clean streets edged by well kept lawns and homes. Its high school is a yellow brick building that, like Pinckneyville itself, has the appearance of gaining the dignity that comes with aging well.

Perry has been Illinois' largest coal producing county since 1970. It is no wonder that Walter Grady, superintendent of Pinckneyville High School, says many of his students' major ambition is to work in the mines.

"The students love the 'hands on' part of the class. They'd much rather be out working on the reclamation site than sitting in a schoolroom doing surveying problems," Grady says. "Their parents are just as enthusiastic because they feel their youngsters are learning a trade they can carry through life."

Though the first enrollment in the fall of 1977 was limited to sophomores and juniors, 86 of the school's 570 students joined the class.

The program's groundwork began in 1976 when the Illinois Department of Adult Vocational and Technical Education awarded the school a planning grant. An advisory committee, including representatives from each of the four coal companies operating in the county, was formed.

"While all of the companies are interested in reclamation and have helped us considerably, Arch took the initiative to work with the school," says Dean O. Smith, high school administrative assistant and director. "That initiative made Arch's equipment and land, mined before reclamation laws were

written, available to us."

Robert Holloway, advisory committee member, is also Arch Mineral's reclamation director. He says he was introduced to the idea of a reclamation class by G. H. Patrick, Arch president and chief operating officer.

"He felt the industry hadn't done an adequate job of in-house training and he wanted us to be more active in that area," Holloway says. "Mining is changing, especially in the severity of state laws and in the enforcement of new federal laws. What we see as a real challenge is a matter of attitudes."

How do you change skills and habits that have been acquired over the years?

"The difficulty is often communicating to the mining veteran that when the law says 'rock free,' it means just that," Holloway says. "The students that study the law three years will have a much greater appreciation of it."

The instructor, Ray Lambert, says the program has helped some of the students by renewing their interest in school. That interest and their acquired skills in surveying, blueprint reading, and grading were vital elements in the construction of a concrete floor on a small portion of Arch's reclaimed land. Designed for housing and feeding swine, it is called a "floating platform" because reclaimed land settles gradually.

"The students were involved in several other projects as well," Lambert says. "They put in a lot of hard work but they could see a purpose in it and felt a sense of achievement. That is an important part of education."

Mr. GALLOWAY. The magnitude of the vocational education program in Illinois has grown over the past five years nearly 25 percent. In 1978 there were nearly three-quarters of a million students in secondary, postsecondary, and the adult level programs operated in 780 high schools, area vocational centers and community colleges in the State. These entities offered over 13,000 programs.

The best way to describe the impact and the effectiveness of this broad program is perhaps from two aspects. One, the human development aspect, as well as the economic development aspect. In 1969, in trying to implement Congress' intent for emphasis upon people as opposed to just programs, the State of Illinois implemented a planning and evaluation system that annually generates indicators of program effectiveness for us. During last year's evaluations that involved over 900 educators, business-industrial people, and students. That group interviewed and surveyed over 9,500 students in the State. More than 90 percent of those students expressed satisfaction with their programs, so much so that they would recommend them to their peers. Probably more significant than that fact, however, is the fact that 85 percent of those same students indicated that their vocational program selection and their career choices were indeed related.

Probably the best way to sum it up, the interest of the students in their programs, a high school senior from Southern Illinois recently said that if he had it to do all over again he would take more vocational education because he wanted to get a job when he graduated.

Additionally, over 950 parents were surveyed. More than 50 percent of that group felt that more vocational education should be offered in the secondary schools of the State. Eighty-eight percent of that same group felt that cooperative education where a student is placed on the job for training in the private sector, business and industry, and that training is coordinated and is a total part of the student's course of study while in high school, is very important. Ninety percent of those same parents were either highly satisfied or generally satisfied with their child's high school program.

Probably more significant is, in a 1977 random sample survey of 211 employers in the State of Illinois, 70 percent of those employers coming from the Metropolitan area of Chicago indicated that they had a favorable opinion of those employees who had been in vocational education programs either at the high-school or postsecondary level. Sixty percent of those same employers responded that local programs in vocational education were satisfactorily meeting their training needs. Also, the unemployment rate of over 75,000 high school completers in 1977, when followed up in February of 1978, enjoyed an unemployment rate of less than five percent; a less than three percent unemployment rate for the postsecondary completers. Yet, at the same time, in February of 1978, the unemployment rate of the youth age 18 to 24 in the State was 12.8 percent.

During 1977, vocational education in the State of Illinois in our regular programs served over 170,000 disadvantaged and handicapped students. They, too, enjoyed an unemployment rate of only eight and nine percent respectively.

Last year, in cooperation with two of the States' CETA prime sponsors, we opened two displaced homemaker centers. At a recent open house in Chicago numerous recipients personally thanked the staff that was present that they had found a place to help them. Many of them had obtained the self-confidence and the survival skills necessary to seek employment and to be employed.

I could go on with some other humanistic aspects, but I think it is important to give you two or three indicators from the economic aspect. In our regular cooperative education programs in 1978 there enrolled and were employed on the job 38,000 students in the State of Illinois, high school students. Those 38,000 students, it has been estimated, working 15 hours a week on the job, being compensated by their employers, for the school year—36 weeks—grossed \$65 million. Sales tax in Illinois on that gross alone amounted to over \$3 million. That was more money than was expended to support their programs of cooperative education. Additionally, after the passage of the '76 Act we implemented a program to serve new and expanded business, to expand our economic development effort in the State. Since that time 400 people have been trained and employed in cooperation with new and expanding businesses and industries in the State. That amounts to an annual income of \$8 million.

The staff is currently negotiating five new contracts, and we have had 42 additional inquiries which we will not be able to serve because of a lack in funds. For those 400 employees and the expended money for that program, that amounts to \$250 of Federal funds per employee for training.

I would like to speak just briefly to the needs in the State. Although during the last ten years we have successfully expanded programs and services through a much refined system of planning and evaluation, that success has in turn cost the system of vocational education. When enrollments expand, when new initiatives are started, there are fewer resources to go around for those programs we are operating. Last year we closed 37 programs in the State—that is an average of 18 students per program. These programs were closed because there were no funds for the programs to operate, and no teachers. We face a severe shortage of teachers in agricultural, trade and industrial education.

Another need is, Illinois has the fifth-largest off-reservation Indian population in the nation. The center of that population is on the near north side of Chicago. With limited funds we are only able to provide a small grant to meet that population's need through one of our city colleges in Chicago.

Additionally, in rural Southern Illinois, in the five county area, the southern tip of Illinois, which has been said to be the poorest, economically depressed, area in the nation, there is limited access to programs, no funds; there are no local funds for programs in that area.

Additionally, in Chicago in the 60 high schools it has been estimated it would require \$3 million per high school and vocational school to improve the programs and to upgrade the programs currently operating there.

Parents also are asking for more vocational education, as indicated by our earlier survey. In addition, we have students who are desirous of attending area vocational centers in the State, the participating districts are finding it hard-pressed to pay the tuition for them to attend the area vocational centers.

Our prisons also need longer duration programs as well as additional services for the inmates. State Representative Tom Anahan recently at the state-wide conference for vocational educators quoted that he had visited a Federal prison in Indiana and had visited with many of the prisoners and the administrative personnel of that prison, and he was concerned that if more of those incarcerated had had an opportunity for an expanded program of vocational education, possibly we would not be spending as much money to maintain them within the prison.

The use of additional funds, the \$300 million request, can be used to meet some of these needs—not all of them because all of the \$300 million additional funds would be needed within the City of Chicago.

Chairman PERKINS. How much money have you actually lost since 1972?

Mr. GALLOWAY. I am sorry.

Chairman PERKINS. How much money have you actually lost since 1972?

Mr. GALLOWAY. The State and Federal share of the cost of the local programs amounted to about 35 percent. Last year that was down to about 13.5 percent of the cost of local programs, the additional cost being picked up at the local level.

Chairman PERKINS. I want you to get that point across before the Appropriations Committee. Go ahead.

Mr. GALLOWAY. To express a major concern that is shared by many is the great partnership that the State and Federal government have had since 1917 for the conduct of vocational education in this nation. We are concerned about the diminishing role of the Federal part of that partnership. Last year the Illinois General Assembly established vocational education as the highest priority. They increased State dollars for vocational education by 45 percent. I would hope that Congress would see fit to do the same thing. Thank you.

Dr. BOTTOMS. Mr. Chairman, we will now hear from Dr. Bob Wood, the Superintendent of Schools of the Boston Public Schools. [The prepared testimony of Dr. Wood follows:]

PREPARED TESTIMONY GIVEN BY ROBERT WOOD, SUPERINTENDENT OF SCHOOLS,
BOSTON PUBLIC SCHOOLS

I WOULD FIRST LIKE TO EXPRESS MY APPRECIATION FOR THE OPPORTUNITY TO PRESENT MY OPINION TO THE SUBCOMMITTEE ON ELEMENTARY, SECONDARY, AND VOCATIONAL EDUCATION CONCERNING THE VITAL AREA OF OCCUPATIONAL EDUCATION.

I COME TO YOU WITH ALMOST A DECADE OF EXPERIENCE AS THE PRESIDENT OF THE UNIVERSITY OF MASSACHUSETTS AND AS THE RELATIVELY NEW MANAGER OF A MATURE URBAN EDUCATION SYSTEM EMERGING SLOWLY, STEADILY, AND SUCCESSFULLY FROM THE SEIGE MENTALITY THAT BROUGHT IT BEFORE THE FEDERAL COURT SYSTEM.

THOSE YEARS OF RESISTANCE HAVE NOW PASSED. THE CHALLENGE NOW BEFORE BOSTON'S PUBLIC SCHOOLS IS ONE OF EDUCATIONAL RENEWAL. THE SCHOOL SYSTEM IS SEEKING WAYS TO INCORPORATE THE RESULTS OF THE COURT'S INITIATIVE INTO A MANY-SIDED EFFORT TO CREATE A DESEGREGATED PUBLIC SCHOOL SYSTEM WHICH PROVIDES AN ACCEPTABLE EDUCATION FOR ALL ITS STUDENTS.

IT IS AN OLD AND PROUD SYSTEM THAT I AM NOW PRIVILEGED TO HEAD. ONE COULD NOT TAKE THE ASSIGNMENT WITHOUT A SENSE OF HISTORY. BOSTON'S PUBLIC LATIN, ESTABLISHED IN 1635, BOASTS THAT HARVARD WAS FOUNDED IN ORDER THAT THERE BE A COLLEGE TO TAKE ITS GRADUATES. BENJAMIN FRANKLIN, IN 1783, BEQUEATHED IN COMPOUNDED INTEREST HIS HUNDRED POUND STERLING TO BE LAID OUT, FOR SILVER MEDALS TO BOYS "FOR THE ENCOURAGEMENT FOR SCHOLARSHIPS."

IT IS THE RESTORATION OF THAT TRADITION--AFTER ALMOST A GENERATION OF STUDIED NEGLECT BY COMMUNITY AND PUBLIC LEADERS, BITTER STRIFE, TURMOIL, SOUR RECALCITRANCE, UGLY CONFORMATION---THAT THE PRESENT COMMITTEE AND PRESENT ADMINISTRATION IS NOW COMMITTED.

SO FAR AS CAREER AND VOCATIONAL EDUCATION IS CONCERNED, THOSE WHO HAVE HAD THE JOY OF READING THEODORE WHITE'S IN SEARCH OF HISTORY, HAVE CAUGHT THE SENSE OF THAT AMBITION. HE WROTE OF HIS IMMEDIATE SCHOOL, THE CHRISTOPHER GIBSON, IN THE LATE TWENTIES. IN HIS WORDS, "VOCATIONAL AND BOOKLEARNING WERE TAUGHT IN THE SAME BUILDING. I CAN STILL TELL A RIPSAW FROM A CROSSCUT SAW BY WHAT WAS TAUGHT ME (BY A LADY CARPENTRY TEACHER, MISS SPRAGUE) IN THE FOURTH GRADE. I CAN STILL WIRE LAMPS IN SERIES OR IN PARALLEL, INSULATE OR INSTALL CUTOFF SWITCHES BY WHAT WAS TAUGHT ME IN THE FIFTH GRADE. BUT-MOST IMPORTANTLY- I FIRST BECAME AWARE OF THE WORD 'HISTORY' IN THE SIXTH GRADE..."

THAT COMBINATION OF CAREER AND ACADEMIC, A SENSE OF COMPETENCE IN SKILLS AND THOUGHT, PREPARED WHITE FOR HIS EXTRAORDINARY CAREER, EQUIPPED HIM FOR HARVARD, ENABLED HIM TO COPE WITH CHIANG KAI-SHEK'S CHINA, SENT HIM FROM THE BOSTON PUBLIC SCHOOLS UPON A CAREER THAT WOULD CIRCUMSCRIBE SO MUCH OF THE POLITICS AND LIFE OF OUR GENERATION.

YET, WE HAVE, HOWEVER, NOT ONLY TO ACKNOWLEDGE THE PASSING OF THAT PATTERN OF EDUCATION, BUT THE SKEPTICISM AND CYNICISM WITH WHICH PRESENT-DAY COMMENTATORS VIEW VOC-ED. THROUGHOUT ITS PAINFUL EVOLUTION IN THE LAST HALF-CENTURY, ORGANIZED LABOR HAS OFTEN REGARDED IT WITH SUSPICION, CONCERNED THAT IT IS CHANNELLING WORKING-CLASS, IMMIGRANT AND BLACK CHILDREN INTO MANUAL JOBS, AND HAS BROKEN THE WORKERS' CONTROL OVER SKILLS TRAINING. "BREEDING SCHOOLS FOR SCABS" IS WHAT A CIGAR WORKERS LEADER DUBBED THE EARLY MOVEMENT NEAR THE TURN OF THE CENTURY.

ON A MORE COMPREHENSIVE BASIS, A NEW SCHOOL OF ECONOMICS, SOPHISTICATED IN THEORY, COMPETENT IN EMPIRICAL RESEARCH, CHALLENGES THE ENTIRE STRUCTURE OF EDUCATION, AS A LACKEY TO THE AMERICAN CAPITALIST POLITICAL ECONOMY,

DESIGNED TO RESPOND SOLELY TO THE MANPOWER NEEDS OF OUR LARGE CORPORATIONS, THE REQUIREMENTS OF OUR MILITARY FOREIGN POLICY, TO SECURE A FORCED MELTING POT OF CULTURE AND HOMOGENEITY. THEY SEE US DELIBERATELY INCULCATING TRAITS OF OBEEDIENCE, DEFENDABILITY, DOILITY, INSTEAD OF CREATIVITY, INDEPENDENCE AND AGGRESSIVENESS. THEY ARGUE THAT WE CONCENTRATE ON INCREASING THE PRODUCTIVITY OF WORKERS WHILE DEFUSING "EXPLOSIVE" CLASS RELATIONS. THEY INTERPRET THE BROWN VS. BOARD OF EDUCATION DECISION OF THE SUPREME COURT, NOT AS THE WATER SHED FOR CIVIL RIGHTS, BUT AS A CONSPIRACY BY BIG BUSINESS AND LIBERALS TO BRING BLACKS INTO THE ECONOMY AS SKILLED LABORERS AND CONSUMERS.

NOW, I DOUBT THAT MANY IN THIS AUDIENCE AGREE WITH THE RADICAL ECONOMISTS AND EDUCATORS. I, FOR ONE, DO NOT. BUT I URGE YOU TO READ THOMAS BOWLES, HERBERT GINSBURG, JOEL SPRING AND MICHAEL KATZ, AS WELL AS DIANE RAVITCH'S SPLENDID REBUTTAL. THEY ARE, I BELIEVE, WRONG, BUT THEY REPRESENT A FORMIDABLE CHALLENGE.

THEIR VIEWS SHOULD HELP SHAPE OUR RESPONSES.

OUR TASK, AT ROCKBOTTOM, IS TO RECONCILE THE EMPLOYMENT NEEDS OF A HIGH-TECHNOLOGY, HIGH-SERVICE ECONOMY, ESPECIALLY IN BOSTON, WITH THE ASPIRATIONS OF EACH INDIVIDUAL, AND TO PROVIDE CAREER PATHS THAT CAN REACH TO THE HEIGHTS OF EACH INDIVIDUAL ASPIRATION.

IT MUST FINALLY BE CLEAR TO EVERYONE ACROSS THIS NATION THAT EQUAL EDUCATIONAL OPPORTUNITY MEANS EDUCATION FOR EVERYONE. SCHOOLS ARE JUSTIFIABLY BEING REQUIRED TO SERVE MORE OF THE POPULATION THAN EVER BEFORE IN:

IN 1920:	17% OF ALL YOUNG PEOPLE COMPLETED HIGH SCHOOL
WHILE IN 1950:	59% OF ALL OUR YOUNG PEOPLE COMPLETED HIGH SCHOOL
AND IN 1976:	75% OF ALL YOUNG PEOPLE COMPLETED HIGH SCHOOL

FEDERAL AND STATE LEGISLATURES ARE MANDATING ACCESS TO SCHOOLS FOR YOUNG PEOPLE WHO PREVIOUSLY NOT ONLY DROPPED OUT OF SCHOOL, BUT WHO WERE ALSO ABLE TO DROP INTO THE WORLD OF WORK IN FACTORIES, FARMS AND SHOPS ACROSS OUR LAND. IT MUST BE STRESSED THAT THOSE STUDENTS WHO DROP OUT TODAY DO NOT DROP INTO THE WORLD OF WORK. THEY ENTER THE WORLD OF WELFARE, OF CRIME AND EVENTUALLY OUR CRIMINAL JUSTICE SYSTEM.

THOSE WHO REMAINED AND PARTICIPATED IN VOCATIONAL EDUCATION PROGRAMS HAVE OFTEN BEEN THE VICTIMS OF ANOTHER SEPARATE AND UNEQUAL EDUCATION PROCESS. FOR ANY PROGRAM GIVEN SECOND CLASS CITIZENSHIP WILL PRODUCE AT BEST A SECOND OR THIRD RATE PRODUCT. OCCUPATIONAL EDUCATION WILL AND DOES SUCCEED WHEN ALL OF THE PARTNERS BELIEVE THAT THE PROGRAM IS EQUAL, IMPORTANT, AND OFTEN A LIFE MAKING AND SAVING PROCESS.

THE ROLE OF THE CONGRESS HAS BEEN TO DEMAND THAT IN THE FRAME WORK OF PUBLIC LAW 94-142 THAT ALL HANDICAPPED CHILDREN RECEIVE A "FREE APPROPRIATE PUBLIC EDUCATION."

THAT AS PUBLIC LAW 94-482 DIRECTS, DESIGNATING THE SERVICE OF LIMITED ENGLISH SPEAKING CITIZENS AS A NATIONAL PRIORITY FOR VOCATIONAL EDUCATION, TITLE IX ENFORCEMENT OF CIVIL RIGHTS LEGISLATION MANDATES ACCESS TO WOMEN WHO HAVE NOT PARTICIPATED IN CERTAIN VOCATIONAL EDUCATION PROGRAMS. THESE BILLS ARE NOT ONLY NOBLE, BUT NECESSARY, IF WE ARE TO RESPOND TO THE CONSTITUTIONAL DICTATES OF EQUAL RIGHTS, PROTECTION, AND OPPORTUNITY.

WE MUST BE CANDID ENOUGH TO ADMIT THAT THE INVESTMENTS BEING DEMANDED ARE IN SOME CITIES IN SOME PROGRAMS COMPLETELY NEW AND UNKNOWN MARKETS. JUST AS WHEN A MAJOR CORPORATION BEGINS IN A NEW MARKET BUSINESS NEEDS THE CAPITAL REQUIRED FOR THE RESEARCH DEVELOPMENT, MARKETING LISTING AND

QUALITY CONTROL. LIKEWISE THE EDUCATIONAL INDUSTRY CANNOT EASILY OR AUTOMATICALLY RE-TOOL STAFF SUPPLIES AND MATERIALS WITHOUT THE SAME IMPACT OF TIME AND MONEY.

WITH THE ENCOURAGEMENT AND SUPPORT OF MEMBERS OF THIS COMMITTEE THE CONGRESS PLEDGED TO ASSUME AN INCREASING PORTION OF THE COST OF EDUCATION FOR THE HANDICAPPED. THE INCREASE WAS TO BE FROM THE 5% OF 1977 TO 40% IN 1981. THE FUNDS PROMISED WERE NOT RECEIVED, IN FISCAL YEAR 1979 ONLY 12% NOT THE 20% PLEDGED WAS ALLOCATED AND THOUGH THE FISCAL 1980 APPROPRIATION SHOULD ACCOUNT FOR 30% OF FUNDING THE BUDGET REQUEST HAS BEEN HELD AT 12%.

NOW, I POINT THIS OUT FOR TWO REASONS, FIRST, THERE ARE JUST BETWEEN THE AGES OF 13 AND 21 OVER 4,200 YOUNG PEOPLE IN THE BOSTON SCHOOL SYSTEM WHO HAVE SPECIAL NEEDS. THESE STUDENTS WERE NOT IDENTIFIED, AND NOT PROPERLY SERVED, JUST TWO YEARS AGO.

SECONDARY, PARENTS AND STUDENTS ALIKE ARE DEMANDING A MORE CONTEMPORARY AND EFFECTIVE EDUCATIONAL PROGRAM. IN ORDER TO SERVE PREVIOUSLY UNDERSERVED YOUTH OCCUPATIONAL EDUCATION IS ONE VERY EFFECTIVE TOOL. THE REAL NEW OPPORTUNITY IS OCCUPATIONAL EDUCATION AND I MUST CONFESS THAT THE FEDERAL BUDGET DOES NOT TESTIFY TO THE REALIZATION SET BY CONGRESS AND THE PLAIN NEED BY A LARGE NUMBER OF THE NEXT GENERATION.

WHAT WE NEED IS A CONSISTANT FEDERAL POLICY IN ORDER TO INSURE THAT ALL SYSTEMS CAN AND WILL COMPLY WITH FEDERAL MANDATES.

IT APPEARS AT BEST INCONSISTANT AND MOST LIKELY CAPABLE TO INDICATE INCREASED ACCESS TO OCCUPATIONAL EDUCATION FOR HUNDREDS OF THOUSANDS OF YOUTHS AND AT THE SAME TIME TO DECREASE THE FUNDS NEEDED TO INSURE THAT THESE PROGRAMS CAN EXIST AND BE EFFECTIVE.

EDUCATIONAL REALITIES POINT TO THE ACKNOWLEDGED NEED FOR INCREASED FUNDING, THE STARK REALITY OF "LEVEL FUNDING" IS MORE THAN ENTAILERING.

AS A FORMER ADMINISTRATOR AND GRANTOR OF FEDERAL FUNDS, AS A FORMER RECIPIENT BOTH IN HIGHER EDUCATION AND TRANSPORTATION AND AS AN ADMINISTRATOR OF A SCHOOL SYSTEM RECENTLY RETURNED FROM THE WOOD SHED I MUST TELL YOU THAT THE FEDERAL CARROT IS MUCH MORE EFFECTIVE THAN THE STICK.

NOW I KNOW CONGRESSMEN ARE HEARING FROM EVERY GROUP THAT THEY SHOULD BE AN EXCEPTION TO THE OFTEN IRRATIONAL RAVAGES OF PROPOSITION 13 FEVER, AND I DON'T MEAN TO ARGUE WITH THEM, BUT I CANNOT OVER STRESS THAT THE INVESTMENT WE ARE ASKING YOU TO MAKE IS IN OUR CHILDREN AND OUR COUNTRY, IF WE DEFAULT ON THESE PAYMENTS TODAY, WE NOT ONLY FORECLOSE ON THE FUTURE OF HUNDRED OF THOUSANDS BUT WE WILL BE MAKING EXTENDED PAYMENTS FOR WELFARE, AND PENAL PROGRAMS FOR THE REST OF OUR LIVES.

IT WOULD BE UNFAIR OF ME TO REPRESENT FINANCES AS OUR ONLY NEED, OFTEN CREATIVITY AND A LACK OF OUTREACH CAN HAMPER QUALITY PROGRAMMING. THE WORLD OF LEARNING MUST EXTEND ITSELF TO THE WORLD OF WORK. AS A RESULT OF THE JOINTED EFFORTS OF SEVERAL BOSTONIANS WE CREATED A PROGRAM THAT I WOULD LIKE TO SHARE WITH YOU.

THE TRI-LATERAL COUNCIL FOR QUALITY EDUCATION, INC., COMMONLY REFERRED TO AS TRI-LATERAL, IS A UNIQUE PROGRAM OF EDUCATIONAL COOPERATION BETWEEN BUSINESS AND BOSTON'S PUBLIC HIGH SCHOOLS. THE PROGRAM WAS STARTED IN BOSTON EARLY IN 1974. ITS PURPOSE IS TO CONCENTRATE--BUSINESS--EXPERIENCE, RESOURCES AND PERSONNEL ON IMPROVING THE VALUE AND QUALITY OF EDUCATION IN BOSTON'S PUBLIC SCHOOLS.

IT'S CALLED TRI-LATERAL BECAUSE IT WAS CREATED BY THREE MAJOR BOSTON ORGANIZATIONS: THE GREATER BOSTON CHAMBER OF COMMERCE; THE NATIONAL ALLIANCE OF BUSINESSMEN; AND THE BOSTON SCHOOL DEPARTMENT.

LEADERS FROM SEVERAL MAJOR BOSTON BUSINESSES JOINED WITH SCHOOL OFFICIALS AND MEMBERS OF THE BOSTON SCHOOL COMMITTEE TO DEVELOP A PROGRAM OF ACTION, AND AN ORGANIZATION TO DELIVER SERVICES EFFECTIVELY. THEY ORGANIZED VOLUNTARY "PARTNERSHIPS" MATCHING NINETEEN BOSTON HIGH SCHOOLS WITH TWENTY-TWO (22) BUSINESSES AND GOVERNMENTAL BODIES. COORDINATORS FOR EACH SCHOOL AND EACH BUSINESS WERE APPOINTED, AND SET TO WORK IDENTIFY-EXISTING SCHOOL NEEDS AND DEVELOPING SPECIFIC BUSINESS ASSISTANCE.

THE TRI-LATERAL, THROUGH ITS EXECUTIVE DIRECTOR, BOARD OF DIRECTORS, TWENTY-ONE (21) CORPORATE MEMBERS CONSORTIA OF PROFESSIONAL MEMBERS, AND ITS STEERING COMMITTEE OF COMPANY PRESIDENTS HAS BECOME A VITAL PARTNER IN BOSTON EDUCATION TODAY.

THE MAJOR OBJECTIVES OF THE TRI-LATERAL PROGRAM INCLUDE:

1. DEVELOPING STUDENT AWARENESS OF THE CONTINUING VALUE OF MEANINGFUL EDUCATION IN THEIR LIVES AND CAREERS.
2. PROVIDING INCREASED OPPORTUNITIES FOR STUDENTS AND TEACHERS TO DEVELOP UNDERSTANDING OF BUSINESS OPERATIONS AND AWARENESS OF CAREER OPPORTUNITIES.

3. BROADENING STUDENT SKILLS AND APTITUDES NEEDED FOR PROMISING CAREERS TODAY AND IN THE FUTURE.
4. ESTABLISHING THROUGH THE USE OF BUSINESS IMAGINATION, RESOURCES AND PEOPLE.

THE BUSINESSES IN THE PARTNERSHIP PROGRAM HAVE BECOME THE MOST IMPORTANT RESOURCE FOR THE PARTNER HIGH SCHOOLS. EACH PARTNERSHIP HAS PRODUCED A VARIETY OF PROGRAMS WHICH REFLECT THE DIVERSE NEEDS OF EACH SCHOOL AND THE UNIQUE RESOURCES OF EACH BUSINESS. A BUSINESS RESOURCE CATALOGUE HAS BEEN PRODUCED IN ORDER THAT SCHOOLS MAY BENEFIT FROM ACTIVITIES OFFERED BY BUSINESSES OTHER THAN THEIR OWN PARTNER. THERE WILL BE A CITYWIDE PROGRAM IN JOB HUNTING TECHNIQUES AGAIN THIS YEAR TO TRAIN BOSTON HIGH SCHOOL SENIORS IN THIS IMPORTANT LIFESTYLE EXPERIENCE COURSE.

THE TRI-LATERAL COUNCIL HAS BEEN DOING MUCH WORK IN THE AREA OF OCCUPATIONAL EDUCATION, ESTABLISHING SIX CLUSTER COMMITTEES TO WORK ON CURRICULUM AND RESOURCES FOR THE FOLLOWING AREAS:

- | | |
|---------------------|--------------------|
| 1. HOTEL/RESTAURANT | 2. DATA PROCESSING |
| 3. BUSINESS SKILLS | 4. GUIDANCE |
| 5. MARKETING/SALES | 6. HEALTH |

THESE CLUSTER COMMITTEE DRAW EXPERTS IN EACH AREA FROM THE BUSINESS AND SCHOOL COMMUNITIES. TO DATE SEMINARS HAVE BEEN OFFERED TO TEACHERS IN CAREER GUIDANCE, HOTEL/RESTAURANT MANAGEMENT AND DATA PROCESSING. THE GROUPS HAVE ALSO PRODUCED MATERIALS WHICH INCLUDE:

1. AN UPDATED CURRICULUM FOR BUSINESS EDUCATION
2. A RESOURCE CATALOGUE FOR HOTEL/RESTAURANT CAREERS WHICH INCLUDES TOURS, SPEAKERS, AUDIO-VISUAL MATERIALS, ETC.

3. A COURSE CURRICULUM FOR FOOD SANITATION
4. DATA PROCESSING CURRICULUM
5. A REVISED CURRICULUM FOR DISTRIBUTIVE EDUCATION
6. A JOB FORECAST FOR JOB OPPORTUNITIES IN BOSTON FOR THE NEXT
TEN YEARS.
7. A NINTH GRADE BUSINESS-EXPLORATORY CURRICULUM

THESE CLUSTER GROUPS OF THE TRI-LATERAL HAVE BEEN MOST PRODUCTIVE AND
WILL CONTINUE TO MAKE A GREAT IMPACT ON OCCUPATIONAL EDUCATION CURRICULUM
IN BOSTON.

YOU ASK WHAT HAS BEEN THE EFFECTIVENESS OF VOCATIONAL EDUCATION IN DEALING WITH THE MAJOR SOCIAL AND ECONOMICS ISSUES OF IMPORTANCE TO THE COUNTRY.

THERE IS NO DIRECTLY OBSERVABLE DATA THAT WILL QUANTIFY ITS EFFECTIVENESS YET THERE IS DATA THAT SHOWS, BEYOND THE SHADOW OF A DOUBT, THAT PERSONS WHO HAVE EQUAL ACCESS TO PUBLIC EDUCATION AND PERSONS WHO HAVE THE OPPORTUNITY TO DEVELOP SKILLS GIVING THE ENTRY LEVEL JOBS WITH ACCESS TO A CAREER LADDER ARE PRODUCTIVE MEMBERS OF SOCIETY.

STUDENTS WHO HAVE A SENSE OF THEIR OWN POTENTIAL AND WORTH AND STUDENTS WHO ARE PROVIDED WITH A SUPPORTIVE LEARNING ENVIRONMENT ARE MOTIVATED. A CRUCIAL ELEMENT IN THIS PROCESS IS PROVIDING THE STUDENT WITH THE KIND OF TRAINING THAT IN FACT GIVE HER OR HIM A REAL CHANCE TO COMPETE FOR ENTRY JOBS THAT WILL EXIST UPON GRADUATION. JOBS THAT WILL NOT TERMINATE BECAUSE AN INDUSTRY MOVES OR A NEW TECHNOLOGY MAKES HER OR HIS SKILLS OBSOLETE BY GRADUATION.

IT IS DIFFICULT TO OBTAIN ACCURATE PROJECTIONS FROM THE BUSINESS COMMUNITY, IN A FORM THAT WILL ALLOW FOR THE KINDS OF PLANNING NEEDED TO PREPARE A FOUR YEAR CAREER/VOCATIONAL CURRICULUM. IN BOSTON THE NEW ADMINISTRATION HAS BEGUN TO WORK CLOSELY WITH THE LOCAL GOVERNMENT TO DO JUST THIS. THE ATTACHED BOSTON DEVELOPMENT AUTHORITY ATTACHMENT WILL SHOW OUR JUST ATTEMPTS AT THIS KIND OF PLANNING EFFORT.

AGAIN IN BOSTON, THE TRI-LATERAL COUNCIL, THROUGH THE PARTNERSHIP'S AID ITS VERY EXISTANCE, IS PREPARING A CLIMATE OF TRUST SETTING UP IMPORTANT COMMUNICATION NETWORKS THAT PROVIDE AN EVER INCREASING LINK BETWEEN BUSINESS, INDUSTRY, AND THE SCHOOL.

THE OCCUPATIONAL RESOURCE CENTER OPENING IN SEPTEMBER 1980 IN BOSTON HAS BEEN DESIGNED TO BE FLEXIBLE ENOUGH TO MEET THE RAPIDLY CHANGING JOB MARKET. WHAT IS NEEDED IS PROACTIVE LEADERSHIP AT THE FEDERAL AND STATE LEVEL THAT WILL ALLOW FOR THE SAME KIND OF FLEXIBILITY IN FUNDING PATTERNS.

FUNDING FOR THE TRAINING AND RETRAINING OF TRADITIONALLY ORIENTED ADMINISTRATORS AND TEACHERS: FUNDING FOR THE TRAINING AND STAFF DEVELOPMENT; THE UPDATING OF OBSOLETE AND OUTDATED EQUIPMENT AND TEACHING SUPPORT MATERIALS WILL BEGIN TO ADDRESS CURRENT NEEDS--THERE ARE THE ISSUES OF RESEARCH AND DEVELOPMENT IN NEW AND EMERGING INDUSTRIES AND TECHNOLOGIES AND THE GROWING NEED TO MEET THE RETRAINING OF GRADUATES--THE FORMER STUDENTS OF OUR SCHOOLS--

WE CAN ONLY BEGIN TO LIST WHAT IS NEEDED IN THIS TESTIMONY. WE CAN ONLY TOUCH THE SURFACE, BUT THE INCREASING CRIES FROM BUSINESSES AND INDUSTRIES FOR COMPETENT AND QUALIFIED PEOPLE TO FILL JOBS, MATCHED AGAINST THE INCREASING NUMBERS OF UNEMPLOYED SHOWS A GAP THAT MUST BE FILLED. IT MUST BE FILLED BY PUBLIC EDUCATION MEETING THE CHARGE AND THE CHALLENGE TO EXCEPT THE RESPONSIBILITY FOR THE STUDENTS, LEARNERS OF ALL AGES.

THE CHALLENGE IS CLEAR AND ONE OF THE GREAT CITIES, BOSTON CAN MEET IT- WITH YOUR SUPPORT AND WITH YOUR ENDORSEMENT WE WILL.

The Future Demand for Labor by Industry and
Occupation in Boston

An Exercise in Selecting Occupations for
Which Training Might be Offered
in the Boston Public Schools

Sara Wermiel
B. R. A. Research Dept.

January 1979

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Preface

The exercise described in this report was undertaken for the vocational education curriculum planners of the Boston School Department. A specific focus was chosen for the work--that of selecting occupations for which training might be offered in the Boston public schools. It was assumed that identification of occupations would be of immediate interest and use in planning the vocational education curriculum. The methodology used in the study draws on that developed by Professor Susan Hudson-Wilson of the Regional Institute on Employment Policy at Boston University, and her original work is gratefully acknowledged.

Missing from the pages of the report -- because of the nature of the exercise undertaken--is a perspective of overall employment change in Boston, a perspective which is presented here in capsule form.

Trends in Boston Employment and Future Prospects

The most recent estimates of total employment in Boston put the number of jobs at about 521,000. Since 1960, the average annual number of jobs (including self-employed individuals) in the City has fluctuated between about 514,000 and 579,000. Yet beneath the overall fluctuations, trends have occurred in the City's industrial composition. In the second half of this century, employment in private service-producing industries -- including such activities as health care, education, business and financial services, transportation and communication -- has grown quite rapidly. Today, approximately two-thirds the City's workers are employed in service-producing industries. Trends in Boston's industrial composition over this period parallel those in the national economy. Boston's economy, which traditionally has had a large services base, responded strongly to the structural shift. In the Boston Metro Area, private service-producing industry employment comprises more than a third of the total.

City of Boston Employment by Major Industry: Actual and Target

1960 - 1970 - 1977 - 1985

	Number of Workers			
	1960	1970	1977	1985 Projected
Fishing and Agriculture, Mining	1,376	652	664	700
Construction	17,908	20,511	12,778	20,930
Manufacturing	88,102	63,539	54,108	58,000
Transportation, Comm. & Pub. Util.	41,120	43,043	34,600	36,360
Trade	126,979	120,414	85,890	98,290
Finance, Insurance, & Real Estate	57,980	73,332	63,154	67,590
Services	105,465	134,421	160,936	187,120
Proprietors	15,939	16,577	14,959	18,670
Government	96,673	102,579	94,000	92,350
Total	580,561	575,668	520,799	560,010

Source: B R A Research Department

Labor Force Trends and Prospects

A complete discussion of the Boston and Boston Metropolitan Area labor force is a task beyond the scope of this paper. Yet, two aspects of the labor force - age structure and education - are particularly relevant to this report and warrant mention.

The large increase in fertility following the Second World War - the "baby boom" - significantly altered the age structure of the U.S. population, no less that of Boston. Though the population of the city as a whole declined between 1960 and 1970, the proportion of the population aged 15-24 years grew from 15.3 to 21.6 percent of the total; in absolute numbers, it was the only age group which grew during this period. This group comprises a large portion of new entrants to the labor force. Such a large number of new entrants has made competition for jobs among young people very keen, especially in this decade of two national economic recessions and reduced number of jobs in Boston. These factors have lead to a high unemployment rate for young people.

The impacts of this structural cause of unemployment among young people will lessen as the baby boom generation ages and the 15-24 year old age group becomes a lower proportion of the population total. Population projections for the City and Eastern Massachusetts indicate that the number of persons in this age group will be declining between 1975 and 1985, both in absolute numbers and as a share of the total population.

Population by Age for Boston and Eastern Massachusetts
1970 - 1975 - 1985 Projected

Age Group	Boston					
	1970		1975		1985 Projected	
	Number	Percent	Number	Percent	Number	Percent
0-14	152,081	23.8	154,484	19.5	143,305	21.7
15-24	128,183	21.6	131,977	23.8	131,730	19.9
25-34	140,072	31.9	150,148	23.8	128,133	24.2
35-44	83,487	19.2	88,338	16.4	87,287	7.2
45+	144,549	23.5	143,048	22.7	112,294	17.1
Total	640,322	100.0	627,998	100.0	581,828	100.0

Age Group	Eastern Massachusetts Macro-Metro Region					
	1970		1975		1985 Projected	
	Number (1,000s)	Percent	Number (1,000s)	Percent	Number (1,000s)	Percent
0-14	1,043	27.8	950	24.9	898	22.1
15-24	948	17.3	723	18.8	681	16.3
25-34	971	23.3	986	25.1	1,277	31.5
35-44	527	11.4	419	10.9	377	9.2
45+	758	20.2	777	20.2	943	20.8
Total	3,743	100.0	3,828	100.0	4,086	100.0

Sources: U.S. Census of Population, 1970/B.R.A. Research Department.
Boston: Margaret O'Brien, "Population Projections by Five-Year Age Groups for the City of Boston in 1985," B.R.A. Research Dept., 10/1979; Eastern Mass.: Al Sanders, "Expected Demographic/Geographic Shifts in Eastern Massachusetts," Mass. Office of State Planning, 7/2/79.

In 1985, total employment in Boston is projected to increase by about 60,000, to include 580,000 jobs in all. This total represents an achievable goal if employment patterns which have emerged in this decade continue and certain anticipated reversals in sectoral employment trends occur. The growth projections assume that the pattern of employment gains in manufacturing which occurred between 1975 and 1977 continues; growth occurs in retail employment, reflecting the effect of known planned investment in retail facilities; and services and finance continue to gain in numbers of jobs in line with national and local prognoses, while Government sector employment declines modestly, in response to fiscal constraints. Employment in contract construction should also grow, given the large amount of new construction planned for Boston.

Occupational Trends and Prospects

Nationally, the occupational composition of the labor force has tended to shift from the "blue-collar" to "white-collar" categories. Between 1960 and 1970, job growth in the United States was greatest in the Professional, Technical, and Kindred Workers and the Clerical and Kindred Workers categories. In the Boston Metropolitan Area, the concentration of jobs in the white-collar categories is even greater than than in the U.S. as a whole. Occupational trends in the Boston Metropolitan Area through 1985 are expected to parallel the national pattern of change, which should continue to show larger gain in the white-collar categories. This pattern follows the structural shift in industry employment towards a concentration of jobs in service-producing sectors.

Percentage Distribution of Employment by Major Occupational Group
for the U.S., 1960, 1970, and 1985 Projected and for
Boston SMSA, 1970 and 1985, Projected

Occupational Group	United States			Boston SMSA	
	1960	1970	1985	1970	1985
Total	100.0	100.0	100.0	100.0	100.0
White-collar workers	40.8	48.8	48.8	58.1	61.1
Professional, technical, and kindred	10.8	14.3	14.4	17.0	19.3
Managers	6.7	7.9	10.4	10.0	11.3
Lawyers	7.3	8.8	9.3	7.2	7.1
Clerical and kindred workers	14.1	18.3	17.5	22.7	23.4
Blue-collar workers	36.5	33.4	34.8	29.8	28.5
Craft and kindred workers	13.3	12.9	12.4	11.9	11.0
Operatives	17.3	18.3	19.2	18.9	19.9
Laborers, except farm	3.1	4.3	9.1	4.1	3.6
Service workers	11.0	11.0	13.2	13.0	13.4
Farmworkers	0.2	2.0	3.8	2	1
Occupation not reported (est.)	4.9	6.3	--	--	--

Sources: Constance B. Shovers, "Changes in the Occupational Structure of U.S. 1960," Monthly Labor Review, March, 1978, U.S. Dept. of Labor; "Key Cases," Revised Occupational Projections to 1985," Monthly Labor Review, November, 1978, U.S. Dept. of Labor; Employment Requirements for the Boston SMSA by Occupation, by Industry, Mass. Division of Employment Security, Sept. 1978.

Another problem which young people faced has been the rising educational requirements for many jobs. Furthermore, as the rate of college attendance in the U.S. population has grown, those young people without post-secondary education have been at a disadvantage in competing for jobs. A positive sign in this regard is the greater number of Boston public high school graduates which have been attending day and junior college.

Post-Secondary School Attendance of Boston Public High School Graduates

<u>Class of</u>	<u>Total Graduates</u>	<u>College & Junior College</u> <u>Attendants</u>		<u>Other Post-Secondary</u> <u>School Attendants</u>	
		<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
1960	3,606	917	25.4	832	17.5
1970	4,093	1,477	36.1	477	10.9
1976	3,808	1,502	39.5	298	7.8
1977	3,987	1,656	41.0	268	6.8

Source: "Follow-Up Study", Dept. of Vocational Guidance, Boston Public Schools.

Since growth is expected to continue to be greatest in occupational categories for which higher education is required, this trend suggests that more Boston public high school graduates will be able to qualify for these occupations.

Many indicators point to a positive prospect for the City of Boston. The expected rise in job opportunities in the City and a more mature resident labor force augurs well for reduced unemployment. The size of Boston's population has been stable in this decade and is projected to grow. This pattern is indicated by the preference of many young adults for city living as well as the broadening of housing improvements in the City. The physical transformation of Boston which has been taking place over the past twenty years will continue, given the long roster of development projects which have been recently proposed. These projects fall in many economic sectors, including hotel, office, retail, and health sectors.

This is the general context in which the exercise described in the accompanying report was undertaken. The focus of the exercise, in contrast to the preceding discussion, was to select occupations for which training might be offered to a limited number of students enrolled in a vocational education curriculum.

Introduction

Information on the future demand for labor by occupation is of critical importance to vocational education curriculum planners. With this information, planners can design instruction programs which offer training in skills expected to be in demand by industry in the future. A healthy regional economy vitally depends on the availability of workers with appropriate skills to meet future work force needs. The school system, furthermore, can better serve the young people enrolled in vocational education courses by offering training in occupations which promise career mobility, good wages, and job security.

The occupational demand project described in this paper was undertaken in order to contribute to the School Department's information base for use in planning new occupational education and training programs.

The main source of information on demand for labor by occupation is the U. S. Bureau of Labor Statistics (BLS). Projections have been developed with the BLS methodology for the nation, Massachusetts, and the Boston Standard Metropolitan Statistical Area (SMSA).¹ These projections are useful indicators of the direction of change in demand for occupations listed in the BLS detailed catalogue of occupational titles. However, the methodology used in making these projections is apt to yield distorted results when it is applied to data from smaller jurisdictions. The BLS forecasting methodology is a two stage process. First, matrices are prepared for areas (U.S., States, SMSA's) showing the distribution of occupations among industries, based on Decennial

Census data, and then are projected to a future "target" year, taking account of changes in industry employment and staffing patterns. In the second stage, forecasts are made for "target" year industry employment. The target year occupational matrix is applied to projected industry employment to yield a distribution of future occupations by industry. The occupations are then summed across industries to obtain the anticipated employment demand by occupation.

It is not practical to use the BLS methodology for projecting Boston industry and occupation employment mainly because small errors in the data base will lead to relatively large errors in the results.³ Already existing occupational projections are a source of information for general career guidance. The concern of this project is not forecasting demand for workers in all occupations. Rather, the focus is to identify those occupations for which training can be offered in Boston public schools on the basis of pre-established criteria and priorities.

The methodology used is essentially a screening process. By subjecting industrial employment and occupations by industry to several criteria and eliminating from consideration those industries and occupations which do not meet the criteria in each step of the selection process, a list of occupations results. The criteria are designed to select occupations within industries for which demand will be great and consequently for which an adequate supply of skilled labor is of great importance. The sources of demand are the same as those in the BLS methodology -- specifically, industry employment growth and replacement needs, resulting

mainly from individuals retiring from the work force. Our interest is in screening out industries with declining employment as well as those occupations for which a notable replacement demand is not anticipated, due to the young average age of the work force.

Methodology

Step 1: Selecting Industrial Sectors

The first step in the selection process was to chart trends in Boston employment in all industries checked against projected industry employment change in the Boston SMSA, and identify industries which have gained employment in Boston and are projected to gain in the SMSA. The trends in Boston employment by industry were charted, and those which demonstrated positive employment trends between 1970 and 1977 were identified. This analysis was conducted for all industries on the first level of disaggregation below the eight broad industrial categories. A list of industries is presented in Table 1. The trend lines were checked against projections of SMSA industrial employment for consistency in the direction of change. Industries meeting these criteria are presented in Table 2.

Secondly, industries which are an important part of the Commonwealth's economic base which have employment concentrations in Boston were identified, though they may not demonstrate positive trends in employment.

Table 1

Employees with Massachusetts Firms by Major Industry Group: 1976

	Industry Group	SIC Code	Number of Employees
A.	Agriculture, Forestry, and Fisheries	--	6,563
	Agricultural Production	01	--
	Agricultural Services and Hunting	07	3,434
	Forestry	08	86
	Fisheries	09	3,043
B.	Mining	--	1,093
	Nonmetallic Minerals, Except Fuels	14	698
C.	Contract Construction	--	65,748
	General Building	15	15,076
	Heavy Construction Contractors	16	12,778
	Special Trade Contractors	17	37,370
D.	Manufacturing	--	601,206
	Food and Kindred Products	20	28,031
	Textile Mill Products	22	25,757
	Apparel and Other Textile Products	23	43,081
	Lumber and Wood Products	24	4,773
	Furniture and Fixtures	25	7,467
	Paper and Allied Products	26	28,622
	Printing and Publishing	27	40,700
	Chemicals and Allied Products	28	15,180
	Petroleum and Coal Products	29	(A)
	Rubber and Plastics Products	30	31,244
	Leather and Leather Products	31	23,920
	Stone, Clay, and Glass Products	32	11,320
	Primary Metal Industries	33	18,213
	Fabricated Metal Products	34	43,186
	Machinery, Except Electrical	35	75,654
	Electrical Equipment and Supplies	36	74,662
	Transportation Equipment	37	20,567
	Instruments and Related Products	38	40,164
	Miscellaneous Manufacturing	39	26,089
E.	Transportation, Communication, & Public Utilities	--	106,090
	Railroad Transportation	40	N/A
	Local and Interurban Passenger Transit	41	19,143
	Trucking and Warehousing	42	24,603
	Water Transportation	44	(A)
	Transportation by Air	45	6,756
	Pipe Line Transportation	46	N/A
	Transportation Services	47	4,377
	Communication	48	32,797
	Electric, Gas, and Sanitary Services	49	14,252

	Industry Group	SIC Code	Number of Employees
F.	Trade		
	Wholesale Trade		
	Wholesale Trade - Durable Goods	50	111,328
	Wholesale Trade - Nondurable	51	61,061
	Retail Trade		45,941
	Building Materials and Farm Equipment	52	385,808
	Retail General Merchandising	53	9,365
	Food Stores	54	51,459
	Automotive Dealers and Service Stations	55	67,630
	Apparel and Accessory Stores	56	38,073
	Furniture and Home Furnishings Stores	57	26,985
	Eating and Drinking Places	58	13,598
	Misc. Retail Stores	59	97,032
			61,223
G.	Finance, Insurance, and Real Estate	--	142,523
	Banking	60	39,081
	Credit Agencies Other Than Banks	61	7,867
	Security, Commodity Brokers & Services	62	6,796
	Insurance Carriers	63	47,278
	Insurance Agents, Brokers, and Services	64	17,597
	Real Estate	65	18,568
	Combined Real Estate, Insurance, Etc.	66	361
	Holding and Other Investment Companies	67	2,249
H.	Services		
	Hotels	--	466,662
	Personal Services	70	15,319
	Misc. Business Services	72	23,710
	Auto Repair, Services, and Garages	73	63,479
	Misc. Repair Services	75	12,281
	Motion Pictures	78	5,006
	Amusement & Recreation Services	79	4,499
	Medical & Other Health Services	80	10,966
	Legal Services	81	163,723
	Educational Services	82	10,005
	Social Services	83	70,427
	Museums, Botanical, Zoological Gardens	84	24,974
	Non-Profit Membership Organizations	86	1,661
	Private Households	88	26,416
	Misc. Services	89	N/A
			30,133
	Total Employment*		1,888,438

(A): 1,000 - 2,499 employees

*Includes employment not elsewhere classified, except government and railroad employees, and self-employed persons.

Source: U.S. Bureau of the Census, County Business Patterns, 1976, Massachusetts, 1978.

Table 2

Boston Industries Demonstrating Positive Secular Employment Trends,
1970-1977, Projected to Gain Employment in the Boston SMSA Through 1985

<u>SIC</u>	<u>Industry</u>
28	Chemicals and Allied Products
34	Fabricated Metals
37	Transportation Equipment
38	Instruments and Related Products
47	Transportation Services
58	Eating and Drinking Establishments
65	Real Estate Developers and Builders
67	Holding and Other Investment Offices
73	Misc. Business Services
79	Amusement and Recreation Services
80	Health Services
81	Legal Services
82	Educational Services
84	Museums, Botanical and Zoological Gardens
89	Misc. Professional Services

Note: Does not include industries with either less than 500 employees
or with too erratic trend lines.

Source: Preliminary 1985 Employment Projections for the City of Boston,
S. R. A. Research Dept., 12/77, from Mass. Division of Employment
Security ES-202 Reports, and Employment Requirements for the
Boston SMSA, by Occupation by Industry, 1970-1985, Occupational/
Industry Research Dept., Mass. D.E.S., 9/76.

For determining industries which are part of the Commonwealth's export base, a "location quotient" for manufacturing and selected service sector industries was calculated. Within each sector, the percentage employed in the Commonwealth is compared with the percentage employed in that industry in the Nation. Where the location quotient is greater than one, or:

$$\frac{\% \text{ employed in industry; in Mass.}}{\% \text{ employed in industry; in Nation}} > 1$$

it is assumed that the industry is part of the Commonwealth's export base -- in other words, that a portion of the industry's products is likely to be exported out of the State. Boston's share of Massachusetts employment in industries with high location quotients was then calculated. Where the value was greater than 8.7 percent for manufacturing industries; greater than 44.6 percent for finance, insurance, and real estate industries; or greater than 28.9 percent for services industries, the industry was selected. The percentages represent Boston's proportion of State employment in the industry in 1977. A total of eighteen separate industries were identified, fifteen based on the employment growth criterion and five based on the "importance" criterion, two of which had already been selected on the basis of employment growth.

The industries which passed the initial screening were then evaluated for work force age. The object of this criterion is to identify industries for which an impending demand for worker replacements can be anticipated, due to the high average age of the work force currently employed in the industry. The median age of workers in the targeted industries

Table 3

National and Massachusetts Manufacturing Employment, 1977

SIC	Group	U.S. Employment		Mass. Employment		Location Quotient
		Amount	Percent	Amount	Percent	
		(1,000s)		(1,000s)		
<u>Durable Goods</u>						
24	Lumber & Wood	642.4	3.3	5.4	.9	.27
25	Furniture & Fixtures	509.9	2.6	8.1	1.3	.50
32	Stone, Clay & Glass	352.4	3.3	12.8	2.1	.64
33	Primary Metal	1,203.4	6.2	15.6	2.6	.42
34, 19	Fabricated Metal and Arms	1,606.3	8.2	52.1	8.6	1.05
35	Machinery (Ex. Elec.)	2,187.5	11.2	79.5	13.1	1.17
36	Electrical Machinery	1,334.9	9.9	85.1	14.0	1.41
37	Transportation Equipment	1,797.9	9.2	32.7	5.4	.59
38	Instruments	827.3	2.2	46.1	7.6	3.45
<u>Non-Durable Goods</u>						
20	Food & Kindred Products	1,720.6	8.8	30.2	5.0	.57
22	Textile Mill Products	981.5	5.0	28.4	4.7	.94
23	Apparel	1,288.1	6.6	43.5	7.2	1.09
26	Paper Products	698.4	3.6	28.9	4.8	1.33
27	Printing & Publishing	1,109.4	5.7	40.8	6.7	1.18
28	Chemicals	1,057.4	5.4	18.6	3.1	.57
30	Rubber & Plastic Prods.	675.3	3.3	30.8	5.1	1.46
31	Leather & Leather Prods.	264.2	1.2	23.4	3.9	3.25
21, 29 39	Other	697.6	3.6	26.0	4.3	1.19
Total		19,554.0	99.5	608.0	100.4	

Sources: Nat'l Employment: Employment and Earnings, March 1978, Bureau of Labor Statistics, U.S. Dept. of Labor.

Mass. Employment: Current Employment Series of the Mass. Division of Employment Security, 1977.

Table 3 (con't)

National and Massachusetts Employment in
Selected Service Sector Industries, 1976

SIC	Group	U.S. Employment		Mass. Employment		Location Quotient
		Amount (1,000s)	Percent	Amount (1,000s)	Percent	
<u>Finance, Insurance and Real Estate</u>						
40	Banking	1,244.8	39.3	39.1	27.4	.97
43	Insurance Carriers	1,081.6	34.6	47.3	33.2	1.35
44	Insurance Agents, Brokers & Service	361.0	8.2	17.6	12.4	1.51
65	Real Estate	819.3	18.6	18.6	10.9	.59
Total F.I.R.E. employment		4,400.3	100.0	142.5	100.0	--
<u>Services</u>						
73	Business Services	2,126.7	13.9	63.5	13.6	.86
80	Health Services	4,089.1	30.7	183.7	36.0	1.14
81	Legal Services	363.1	2.7	10.0	2.1	.78
82	Educational Services	983.4	7.4	70.4	15.1	2.04
86	Membership Organizations	1,071.1	8.0	26.4	5.7	.71
89	Miscellaneous Services	639.8	4.9	30.1	6.4	1.33
Total Services Employment		13,340.7	100.0	466.7	100.0	--

Source: U.S. Bureau of the Census, County Business Patterns, 1976,
U.S. Govt. Printing Office, Washington, D.C., 1978.

Table 4

Ranking of Industries with Location Quotients Greater Than One

SIC	Group	Location Quotient	Rank
39	Instruments & Related Equip.	3.45	1
31	Leather & Leather Prods.	3.25	2
82	Educational Services	2.04	3
64	Insurance Agents, Brokers, & Serv.	1.51	4
30	Rubber & Plastic Prods.	1.46	5
36	Electrical Machinery	1.41	6
63	Insurance Carriers	1.35	7
26	Paper Products	1.33	8
21, 29, 39	Other	1.19	9
27	Printing & Publishing	1.18	10
35	Machinery (Except Electrical)	1.17	11
80	Health Services	1.14	12
23	Apparel	1.09	13
19, 34	Fabricated Metal	1.08	14

Note: See Table 3 for sources.

Table 5

Ratio of Boston Employment to Massachusetts Employment, 1977

Location Quotient					Boston Emp. as a Percentage of Mass. Emp.
<u>Rank</u>	<u>SIC</u>	<u>Industry</u>	<u>Mass. Employment</u>	<u>Boston Employment</u>	
<u>Manufacturing</u>					
1	38	Instruments	30,483	1,704	3.4
2	31	Leather	22,879	1,629	7.1
5	30	Rubber & Plastic	29,729	347	1.2
6	36	Elec. Machinery	93,832	2,149	2.3
8	26	Paper Products	29,621	1,222	4.1
9	21, 29, 39	Other	28,324	1,688	6.3
10	27	Printing & Pub.	41,550	11,701	28.2
11	35	Machinery (Ex. Elec.)	83,508	4,383	5.3
13	23	Apparel	42,579	8,330	21.0
14	34, 19	Fab. Metal All Manufacturing Industries	31,070 618,822	6,974 53,621	13.7 8.7
<u>Finance, Insurance & Real Estate</u>					
4	64	Insurance Agents, etc.	12,683	4,377	34.5
7	63	Insurance Carriers All F.I.R.E. Industries	45,146 135,210	25,654 60,312	56.8 44.6
<u>Services</u>					
1	82	Educational Serv.	62,693	20,969	33.4
12	80	Health Services	179,844	47,710	26.5
		All Services Industries	484,313	140,175	28.9

Sources: Employment and Wages in Establishments Subject to the Massachusetts Employment Security Law, State and Boston 1977 Annual Averages, Mass. Division of Employment Security.

Note: Employment figures include the annual average number of jobs in firms covered by the Employment Security Law and consequently do not represent all industry employment.

was obtained from Census materials and they were ranked according to median age. Those with too youthful a work force were excluded. The age cutoff for exclusion is not absolute, however, but based on the characteristics of the work force in the Boston SMSA. (See Table 6).

According to the criteria employed thus far, the following industries met both the high median age of work force and the positive secular employment trend or "importance" criteria.

<u>SIC</u>	<u>Industry</u>	<u>Median Age Rank</u>	<u>Average Emp. Boston, 1977</u>	<u>Average Emp. Boston SMSA, 1977</u>
23	Apparel and Other Textile Products	1	8,900	13,500
28	Chemicals and Allied Products	5	1,600	8,500
34	Fabricated Metal Products	3	7,000	19,800
37	Transportation Equipment	2	1,100	20,800
47	Transportation Services	6	1,600	3,200
65 & 67	Real Estate, Holding and Other Investment Offices	4	7,163	12,493

The median age of the male and female work force in each industry is greater than 49.5 years.

Step 2: Selecting Occupations

The second part of the exercise involves identifying occupations with workers in older age categories, for which a demand for new trained workers can be expected. Selecting occupations was more complicated than selecting industries because the detailed information on employment by industry and occupation is not matched by comparably detailed

Table 6

Rank by Median Age of Boston SMSA Work Force in Targeted Industries

SIC	Group	Both Sexes		Male		Female	
		Median Age	Rank	Median Age	Rank	Median Age	Rank
23	Apparel and other fabricated textile prods.	57.2	1	54.1	1	58.4	1
27	Printing and Publishing	46.9	7	46.2	10	48.5	8
28	Chemicals and allied products	49.9	5	49.6	6	49.8	5
34	Fabricated metals	50.9	3	50.7	4	51.5	3
37	Transportation equipment	53.5	2	53.7	2	52.0	2
38	Instruments and related products	48.9	7	45.4	12	51.2	4
47	Transportation services (inc. taxis)	49.5	6	50.6	8	43.2	12
58	Eating & drinking estab.	42.5	14	39.7	16	44.7	9
63	Insurance Carriers	42.6	13	47.3	8	38.6	16
65	Real estate developers and builders	50.1	4	51.4	3	47.0	7
67	Holding and other investment offices	50.1	4	51.4	3	47.0	7
73	Other business services	46.1	8	47.0	9	44.2	10
	Research & development; Management & technical services	41.1	15	42.2	15	39.0	15
79	Entertainment and recreational services	43.5	12	43.9	13	43.0	13
80	Health services	45.3	9	47.9	7	44.0	11
92	Educational services	44.7	10	42.4	14	45.1	8
81	Legal Services	44.3	11	45.9	11	41.0	14
84	Museums, botanical gardens and zoos						
89	Misc. professional services						

Note: Median ages are those reported in the 1970 Census plus eight years.

Sources: Industry Manpower Characteristics for Boston SMSA, State of Mass., 1970 Census of Population (5th Count Summary Tape), U.S. Dept. of Labor and Lawrence Berkeley Laboratories.

information on age of work force by occupation. In addition, the job categories used in the Census differ from those in the Occupational Employment Statistics Program publications, which contain the most up-to-date information on staffing patterns by industry in Massachusetts and were the source for data on the number of workers in occupations, used in this analysis. (See Table 7 for industry occupation distributions).

In making selections, the focus was on skilled occupations and particularly production occupations. A cutoff number was determined for selecting occupations in each industry, occupations with a work force numbering less than the cutoff were not included, because of too few jobs.

Three industries -- Transportation Services, Real Estate Developers and Builders, and Holding and Other Investment Companies -- were not analyzed because information on occupational distributions in these industries is either incomplete or entirely lacking.⁴

Table 8 presents a ranking of selected occupations by industry according to the median age of the work force, as could best be ascertained. Occupations which passed the final screening - those with a median work force age of 49.5 years or more - are listed below.

<u>Title of Occupation</u>	<u>Primary Industry of Occupation</u>
Bundler and Folder	Apparel
Chemical Operator and Helper	Chemicals
Grinder Operator, Chemical	Chemicals
Inspector	Apparel, Chemicals, Fabricated Metal, Transportation Equipment
Machinists and Job and Die Setters	Fabricated Metal
Metal Working Operatives	Fabricated Metal
Painter-Production	Fabricated Metal
Precision Machine Operatives	Fabricated Metal
Sewers and Stitchers	Apparel
Tool and Die Maker	Fabricated Metal
Welders and Flamecutters	Fabricated Metal

Detailed information on the nature of the work in selected occupations can be obtained from the U.S. Department of Labor's Dictionary of Occupational Titles.

Concluding Notes

As a result of the methodology used, a number of occupations were selected which contrast to a great degree with those usually assumed to be the best ones in which to offer training. Indeed, one might have assumed from the discussion in the Preface of the greater rate of growth in service sector employment (specifically, services and finance) and white-collar occupations relative to manufacturing employment and blue-collar occupations, that very different kinds of occupations would have been indicated. While openings in trade occupations will not be as numerous as those in white-collar occupations, it would appear from the analysis that there will be job openings for trained workers in trade occupations arising from replacement demand. On the other hand, there has been a strong response in the labor market to demand for workers in white-collar occupations. Young people are a notable proportion of the work force in many white-collar occupations, as indicated by the relatively low median age of workers in these occupations.

Median Age of Employed Persons by Occupation
in the Boston SMSA, 1970

Occupation	Age	
	Male	Female
Professional, technical, & kindred	37.5	34.2
Clerical & kindred		
Bank tellers and cashiers	24.3	32.3/28.4
Bookkeepers and billing clerks	38.1	46.0/-
Office machine operators	NA	32.1
Secretaries		31.8
Service workers		
Health service workers	27.6	33.7

Source: U.S. Bureau of the Census, 1970 Census of Population, Massachusetts, Detailed Characteristics.

This is not to suggest that students who prepare for clerical, service, and other white-collar occupations will be unable to find jobs in them because of an over-supply of workers. (Supply is a difficult concept to quantify anyway, due to the transferability of skills among occupations.) Because of turnover, as well as growth in demand and replacement needs, the absolute number of openings at any time in many white-collar occupations should be large, and people with certain kinds of training--such as in technical occupations -- are expected to have good job opportunities in the 1980s. Yet, if instruction is concentrated in these and like occupations, an opportunity might be missed to train students for occupations for which there might actually be a shortage of workers, such as those identified in the report.

Why the labor market has apparently not responded to potential demand for workers in the occupations selected is not entirely clear. Since the only information on age of work force by industry and occupation is from the 1970 Census, it may not accurately represent the present situation. It is necessary to further investigate the selected occupations before attempting to implement a training program for them, through discussions with personnel managers in firms in selected industries and union representatives, where the occupation is unionized.

In addition to the demand question, occupations must also be studied in terms of the practicality or possibility of offering training for them in the public schools and availability of existing non-institutional training programs, such as apprenticeships and similar opportunities, which might be incorporated into the program.

TABLE 7
OCCUPATIONS OF EMPLOYEES IN SELECTED INDUSTRIES
IN MASSACHUSETTS

	<u>Number</u>	<u>Percent of Industry Total</u>
Apparel and Other Textile Products (SIC 23)		
Managers and Officers	1,890	4.20
Technical Occupations	60	.13
Service Occupations	410	.91
Maintenance and Production Occupations	36,960	82.03
Presser Hand	1,040	2.31
Presser Machine	880	1.95
Inspector	830	1.84
Sewing Machine Operator, Regular Equipment	18,420	40.90
Sewing Machine Operator, Automatic Equipment	3,060	6.79
Bundler	580	1.29
Cutter Portable Machine	640	1.42
Hand Sewer	470	1.04
Sample Maker	470	1.04
Thread Trimmer	1,130	2.51
Work Distributor	490	1.09
Cutter, Hand	490	1.09
Folder, Hand	590	1.31
Clerical Occupations	4,700	10.43
Sales Occupations	660	1.46
TOTAL:	45,040	100.00

Note: Cutoff for selecting occupations: 450 employees or one percent of total, excluding "All Other" production workers categories.

Source: An Occupational Profile of Manufacturing Industries in Massachusetts 1974, Massachusetts Division of Employment Security, April, 1976.

Table 7
continued

	<u>Number</u>	<u>Percent of Industry Total</u>
Chemicals and Allied Products (SIC 28)		
Managers and Officers	1,640	8.56
Professional Occupations	1,810	9.45
Technical Occupations	660	3.45
Service Occupations	430	2.25
Maintenance and Production Operations	11,030	57.60
Supervisor, Maintenance & Production	690	3.60
Mechanic, Maintenance	280	1.46
Truck Driver	320	1.67
Industrial Truck Driver	330	1.72
Inspector	220	1.15
Maintenance Repairer, General Utility	380	1.98
Production Packager	600	4.18
Chemical Operator A	500	2.61
Chemical Operator B	340	1.88
Chemical Operator Helper	540	2.92
Grinder Operator, Chemical	200	1.04
Mixer/Blender Chemical	750	3.92
Clerical Occupations	3,090	16.14
Sales Occupations	490	2.56
TOTAL:	19,150	100.00

Note: Cutoff for selection: 192 employees or one percent of total, excluding "All Other" production workers categories.

Source: An Occupational Profile of Manufacturing Industries in Massachusetts 1974, Massachusetts Division of Employment Security, April, 1976.

Table 7
continued

	<u>Number</u>	<u>Percent of Industry Total</u>
Fabricated Metal Products (SIC 34)		
Managers and Officers	3,610	7.10
Professional Occupations	2,100	4.26
Technical Occupations	1,378	2.76
Service Occupations	930	1.87
Maintenance and Production Operations	34,020	68.79
Supervisor, Maintenance & Production	1,390	2.81
Truck Driver	450	.91
Filer, Grinder, Buffer, Cleaner	810	1.64
Inspector	1,370	2.77
Machinist	580	1.19
Electroplater	560	1.13
Production Packager	1,070	2.16
Sheet Metal Worker	880	1.78
Tool and Die Maker, Metal	790	1.60
Welders and Flamecutters	1,720	3.48
Assembler	3,150	6.37
Drill Press/Boring Machine Operator	820	1.66
Grinding/Abrazing Machine Operator	800	1.62
Lathe/Turning Machine Operator	1,560	3.16
Machine Tool Operator Combination	1,340	2.71
Machine Setter	660	1.34
Milling and Planing Machine Operator	480	.97
Plater Helper	550	1.11
Painter, Production	570	1.15
Punch Press Operator, Metal	1,900	3.84
Clerical Occupations	6,170	12.48
Sales Occupations	1,230	2.49
TOTAL:	49,440	100.00

Note: Cutoff for selection: 450 employees or .91 percent of total, excluding "All Other" production workers categories.

Source: An Occupational Profile of Manufacturing Industries in Massachusetts 1974, Massachusetts Division of Employment Security, April, 1976.

Table 7
continued

	<u>Number</u>	<u>Percent of Industry Total</u>
Transportation Equipment (SIC 37)		
Maintenance and Production Occupations		
Fillers, Grinders, etc.	285	.74
Supervisor, non-working	858	2.42
Inspector	679	1.91
Sheet Metal Worker	426	1.20
Machine Tool Operator, Numer-Cont.	243	.68

Note: Unpublished data, due to a relatively low response rate for certain occupations. Cutoff: 243 employees or .68 percent of total industry employment.

Source: Occupational Employment Statistics Program, Occupation/Industry Research Department, Massachusetts Division of Employment Security. Print-out of data gathered in 1978.

TABLE 6
RANK OF OCCUPATIONS BY MEDIAN AGE OF WORKERS
BY INDUSTRY FOR THE BOSTON SMSA

	<u>Median Age</u>	<u>Rank</u>
Apparel and Other Fabricated Textile Products SIC 23		
Sewers and Stitchers (Female)	59.5	1
Inspector (Female)	56.7	2
Inspector	51.4	3
Bundler and Folder	50.0	4
Chemicals and Allied Products SIC 28		
Grinder Operator, Chemical	52.5	1
Inspector	51.4	2
Chemical Operator and Helper	50.0	3
Mechanic and Maintenance Repairer	48.9	4
Truck Driver	47.5	5
Fabricated Metal Products SIC 34		
Tool and Die Maker	55.8	1
Painter - Production	53.3	2
Precision Machine Operatives	52.5	3
Machinists and Job and Die Setters	51.6	4
Inspector	51.4	5
Metal Working Operative	50.9	6
Welders and Flamecutters	49.3	7
Assembler	48.8	8
Truck Driver	47.5	9
Sheet Metal Worker	47.2	10
Packers and Wrappers	39.7	11
Transportation Equipment SIC 37		
Precision Machine Operatives	52.5	1
Inspector	51.4	2
Sheet Metal Worker	47.2	3

Note: Median ages are those reported in the 1970 Census plus eight years. All ages pertain to male workers in the occupation unless otherwise noted.

Source: Industry Manpower Characteristics for Boston SMSA, State of Massachusetts, 1970 Census of Population (6th Count Summary Tape), U.S. Department of Labor and Lawrence Berkeley Laboratories.

Footnotes

1. For National occupational demand forecasts, see "The Job Outlook in Brief," Occupational Outlook Quarterly, Spring, 1978, U.S. Dept. of Labor, Bureau of Labor Statistics. For Massachusetts, see Employment Requirements for Massachusetts by Industry 1970-1985, Mass. Division of Employment Security, July, 1973, and for the Boston SMSA, see Employment Requirements for the Boston Standard Metropolitan Statistical Area by Occupation by Industry, 1970-1985, Mass. Division of Employment Security, Sept., 1976.
2. The most satisfactory source of information on employment at the SIC two digit level for Boston is the annual reporting of the average number of jobs in firms covered by the Employment Security Law, by industry. However, the data are not satisfactory for long-term time series work for the following reasons. First, the definitions in the Standard Industrial Classification System have changed over the years, resulting in reassignment of firms most recently in 1968 and 1975, and a reclassification of firms has not been completed. Secondly, the E.S. Law has changed so that a greater percentage of jobs is covered today than in past years. Thirdly, firms are occasionally mis-classified or their classification changed, and re-classifying these can lead to changes in industry employment totals not related to real employment trends. This problem becomes an important one when dealing with relatively small employment totals in certain industries.
3. 1977 Annual Average Employment for Boston and the Boston SMSA, in firms covered by the Employment Security Law, Mass. Division of Employment Security.
4. O.E.S. occupational distributions for the Transportation Services and Real Estate Developers and Builders industries have not been published. Though firms in these industries were surveyed, their response rate was too low to yield statistically significant results. An incomplete occupational distribution was published for Holding and Other Investment Companies.

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STATEMENT OF DR. ROBERT WOOD, SUPERINTENDENT, BOSTON PUBLIC SCHOOLS

Dr. WOOD. Thank you, Mr. Chairman, it is a pleasure to be back and a pleasure to testify again.

I should tell the committee that I come to this panel as a relative newcomer, six months in office in the Boston Public Schools. I come, however, with great enthusiasm in joining my colleagues here today because I think the issue at hand is vital for the Boston system as well as for my colleagues across the country and other States.

Let me give you a brief notion in addition to the written testimony that I have submitted about why this hearing is important, and why the issue is important.

The Boston public school system is emerging from four years of a state of siege, and undertaking now to address itself to the issue of education; undertaking to find a disengagement process from the Federal Court. We sought our strategy on the simple proposition that after years of Federal investment in big cities—whether in subsidized housing or in urban renewal, or the development of major new industrial sites—the key link for urban development and the key justification for Federal investment in cities over the years have got to be their public school system. No city will survive and no city will be great, and no city will be stable unless the public has confidence in those public schools; unless young families will stay; unless families will resettle, and unless they believe that their children have an opportunity for equal and good education.

At the heart of that strategy that how a city goes depends on how the school system goes, lies vocational education. In Boston, of our 70,000 students at the present time 8,000 are in vocational education. It should be, by any comparison with my colleagues in Detroit or Chicago, or New York, or Atlanta, it should be at least 15,000. As we go about repairing the Boston public schools and the confidence of the public in them, we have to begin with vocational education.

Teenage unemployment in Boston for whites is at 23 percent, for blacks at 41 percent. In a system in which we have no majority of either white, black, Hispanic or bilingual, this is a vital point that our young people have jobs when they come out, are able to compete in the market, and are able to find jobs that give them not just placement, but permanence and a chance of promotion.

We now have under way, Mr. Chairman, a \$35 million investment in the occupational resource center that we are scheduled to open in September. The issue before us is whether we have the flexible funds that will allow us to produce graduates who can find real jobs that really exist in the Boston area. The local system and the local administration carry the responsibility of transforming a faculty that has been trained and has been equipped to produce young people for jobs that no longer exist, to make sure that their programs are contemporary. But we also require from Federal and State sources two major needs.

The first is simply, we need to find reliable projections and reliable data as to trends in the job market and where they shall fit.

Secondly, we need at this time to find the funds that say the priorities in education now move toward career and vocational education.

Mr. Chairman, in my eight years as president of the University of Massachusetts I often dealt with what I call the "compulsive drive to college" that characterized this nation in the 1960s and into the '70s. I always wondered why the average in our freshman courses was a 40 percent drop-out rate. It seemed to me at that time that both families and students alike had the belief that the only way to find success and happiness was a college degree and a college effort, and I think that that proposition no longer stands.

Vocational education has long been treated in the educational world as some kind of second-class citizen and as some kind of second track. It is now the critical point for the tenth generation of young Americans if they are going to move into careers that are satisfying and in careers that find them productive members of this society. Unless we are able in the years ahead—Boston and the rest of the nation—to make that point of the necessary and critical effort, and critical role that vocational, occupational education play, we will be maintaining at great expense obsolete school systems, obsolete patterns of education; and we will be relegating to either prisons or welfare a generation of students who deserve jobs and who are ready to take them.

That is why I am pleased to be with my colleagues today, and that is why I hope very much I will be able to work with the Massachusetts delegation to follow us in the appropriation process that is under way.

Thank you, Mr. Chairman.

Dr. BOTTOMS. Mr. Chairman, do any members of the committee have questions of Dr. Wood before we go to the next person?

Chairman PERKINS. Go ahead.

Dr. BOTTOMS. Next I would like to present Dr. Dwight Davis, Director of the Technical Institute at Wausau, Wisconsin.

[The prepared statement of Dr. Davis follows:]

A STATEMENT ON VOCATIONAL EDUCATION
PRESENTED TO
THE SUBCOMMITTEE ON ELEMENTARY, SECONDARY, AND VOCATIONAL EDUCATION
CONGRESS OF THE UNITED STATES - HOUSE OF REPRESENTATIVES

MARCH 1, 1979 - 9:30 A.M.

BY

DR. DWIGHT E. DAVIS, DISTRICT DIRECTOR
NORTH CENTRAL TECHNICAL INSTITUTE
1000 SCHOFIELD AVENUE
WAUSAU, WISCONSIN 54401

The perspective of my remarks is that of an educational administrator responsible for delivery of postsecondary vocational, technical and adult education on a day-to-day basis to approximately 200,000 people in ten counties in north central Wisconsin. The district for which I am responsible is one of sixteen such districts covering every square mile of the state of Wisconsin. (See attached map of Wisconsin VTAE Districts - Exhibit A.)

In the North Central Technical Institute District we serve approximately 17,000 people annually. We have two full-time campuses--one at Wausau and the other at Antigo. In addition, we lease facilities at approximately 40 other locations in communities scattered throughout our service area. The mission of our school is to train people for their first job, retrain them for a new job, or assist them in acquiring new skills to maintain or advance on their current job. We provide training in approximately 40 different career fields.

Although the vocational, technical and adult education effort in Wisconsin dates back to 1910, the districts as they exist today were created after the Vocational Education Act of 1963. The federal initiative to expand vocational education through financial assistance for equipment, facilities, curriculum development and research gave impetus to this development. Today Wisconsin has 17 major campuses and 600 training sites in operation for the delivery of job training. (See Exhibit B - Wisconsin VTAE District Training Center Locations.)

In slightly more than a decade, the vocational education effort in Wisconsin has grown from one that serviced a total of 190,000 people in 1967-68 to 428,000 in 1978! This increase of approximately 228,000 people in a ten year period is dramatic. Looking at the figure another way, the Wisconsin Vocational, Technical and Adult Education Districts are now serving one of every eight persons of voting age. (See Exhibit C - Wisconsin VTAE District Postsecondary Enrollment Growth.)

A further examination of the enrollment figures from the Wisconsin Vocational, Technical and Adult Education System shows that of the 428,000 total enrollees, approximately 116,000 were enrolled in full-time degree or diploma programs of two years or less. The remaining individuals were enrolled in continuing education courses for purposes of retraining or upgrading their current occupational capabilities. Service to adults has been and continues to be a major reason for the enrollment growth in the Wisconsin Vocational, Technical and Adult Education System. Thirty percent of the enrollment is in the age range of 25 to 34 years of age, with an additional 17% in the age range of 35 to 44, and another 10% in the age range of 45 to 54. This accounts for a combined total of 57% in the age range of 25 to 54 years of age, with the majority of the remaining individuals in the age range of 18 to 24 years. (See Exhibit D - Age Breakdown of Wisconsin VTAE District Enrollees.)

Enrollment growth is only one dimension that shows the service of the technical schools in Wisconsin. Another, and probably more important fact, is the number of individuals graduated and placed. Each year, a follow-up study is done of graduates, and last year this follow-up study showed that 94% of the graduates were employed upon graduation and 90% of these individuals stayed in the state of Wisconsin. Examining this statistic in my own district, the importance of regionalized vocational education opportunity becomes apparent. We had 96% of our graduates employed within six months--approximately 65% of whom remained in

our central Wisconsin area. It is commonly felt by the citizens of our area that if it were not for the regionalized vocational-technical district many of these individuals would migrate to the cities and/or leave the state.

A further examination of enrollment growth and change in my own district shows that in 1968 our enrollment was slightly over 80% male. This year, it will be only 58% male. Thus, consistent with the emphasis of the Vocational Education Act we have been successful in attracting more women into vocational education programming. Many of these women, of course, have entered traditionally female occupations such as nursing, secretarial, and the like. However, we are finding a continuing increase in the number of women entering the so-called non-traditional fields. A few such examples indicate that at North Central Technical Institute this year 22 of our 62 police science majors are females, 17 of 32 persons in our printing training program are female, 6 of the 14 persons enrolled in our machine tool program are female.

The curriculum of the Wisconsin VTAE Districts is comprehensive including training for skilled occupations such as welding, auto mechanics, agriculture and the like through 18 two-year diploma programs and 108 one-year diploma programs; and training in technical or paraprofessional fields such as electronics, data processing, nursing, etc., through 123 associate degree programs. In addition, 47 less than one-year programs are offered in areas such as nurse assistant and fire training totaling now in excess of 300 different occupational majors that can be obtained throughout the state. This does not include, of course, the variety of different continuing education programs including apprenticeship training, emergency medical technician training, training programs for municipal employees, consumer and homemaking classes, general education development services, special training programs for the handicapped, etc...

On the subject of the handicapped, I would like to call attention to the work that we are doing in our district consistent with the emphasis in past vocational

education legislation. In the last six years, we trained 115 individuals who are deaf and 90 individuals in the last two years who are blind. We operate major programs in mobility training and sign language designed to service these two specialized handicaps. In addition to that, we have a number of individuals who have other forms of physical impairment.

Still another mark of Wisconsin's commitment to vocational education is evident in an analysis of the dollars spent for vocational education. In 1978, a total of \$234 million will be spent to deliver the services I have previously outlined at the postsecondary level. This includes approximately \$20 million from federal sources, \$46 million from state sources, and the other monies being raised through local taxes and tuition. (See Exhibit E - 1978-79 VTAE District Expenditures by Revenue Source.) It is of significance to note that close to 50% of the monies raised for vocational education come from local sources. Of the \$20 million from federal sources, approximately \$7 million is from the federal Vocational Education Act.

It may be of interest to the Committee to note that in Wisconsin the total federal dollars received from the Vocational Education Act is approximately \$12 million, 40% of which is assigned for the delivery of programs at the high school level, the remaining 60% for the delivery of training at the postsecondary level.

I recognize that the statistics I have cited may be difficult to assimilate and I would further expect that in your roles as national legislators you are too often bombarded with statistics. However, I know of no better way to describe the success of the Wisconsin Vocational, Technical and Adult Education Districts. In short, we have:

- A. Demonstrated a relevant service as evidenced by continuing enrollment growth--We now serve two and one-half times more people than ten years ago. Since all training programs are elective, the people

of our state have voted their support for vocational education by their presence in our classrooms.

- B. The federal dollars provided through the Vocational Education Act are multiplied many fold with local tax expenditures, state aid, and other sources of revenue. This attests to the value of federal assistance in providing seed money for new directions of emphasis, i.e., services to minorities, women, the handicapped, etc.,.
- C. Our graduates have provided a ready resource to meet the increasing job demands in Wisconsin. Although data on economic impact of vocational education graduates is difficult to assemble, I would simply leave you with a question--"Where else would a state like Wisconsin obtain highly trained manpower were it not for the output of the Vocational, Technical and Adult Education Schools?" Last year the number of employed persons in Wisconsin increased 83,000. I would venture that a goodly number of these individuals were graduates of our schools.

What can be said about the effectiveness of vocational education in dealing with social and economic issues?

I regret that in the time that I have had to prepare for this testimony that I have not been able to amass a good deal of hard data to answer your question. However, I would suggest the following points can be supported in our state. First, from the standpoint of social issues, let me address the following:

A. Crime

While those of us in vocational education cannot take credit for lower crime rates, one can speculate that the crime rate might be higher were it not for the capacity of vocational institutions to provide job skills for young people.

B. Equality of Opportunity

The change in Wisconsin enrollment that I noted earlier now approaching 60% male and 40% female when less than a decade ago the

figure showed 80% male and 20% female is an indication that more opportunities are being provided for women. In addition, specialized training programs such as I previously noted for handicapped individuals are providing increased access for handicapped persons in the Wisconsin labor market.

C. Training Opportunities for Minorities

While I did not address myself to the subject of minorities earlier, it can be substantiated in Wisconsin that the enrollment of minority group members including Blacks, Hispanics, and Native Americans is on a continued increase. Of the 116,000 students enrolled in degree or diploma programs, I am told that approximately one-third are classified in minority group categories.

D. Quality of Life

To the degree that training is important to further technological advancement in our society and, in turn, that technological advancement and economic independence are important to an individual's quality of life, one can only conclude that the placement success of Wisconsin Vocational, Technical and Adult Education graduates is contributing to their economic independence and, in turn, their quality of life.

The economic impact of vocational education can be demonstrated in the following ways:

A. Unemployment

From an economic point of view, a major issue, of course, is employment. The fact that vocational education graduates are employed and the number of enrollees in our institutions is ever increasing, we know these people are employed and not adding to the nation's unemployment statistic or the statistic of our state or district.

These graduates earn higher wages--they pay taxes, buy homes, cars, etc... In this sense, I feel vocational education is having a definite impact on decreasing unemployment and increasing economic gain for our country. One can only speculate what the unemployment figures would be were it not for vocational education and the individuals now enrolled in our institutions were having to face the labor market without the skills necessary for employment.

B. Productivity of Workers

Another dimension of economic impact is that of productivity. I think it can be substantiated that our graduates are productive and capable. The fact that employers scramble to employ our graduates is an indicator of this fact. Again, our enrollment growth is testimony to the fact that students view us as a relevant and worthwhile investment related to their future success.

In our district we have a number of programs for which we have more demand for graduates than we are able to meet. This is an indication that employers, as I noted earlier, do view us as a training source of productive employees.

C. Industrial and Business Expansion

The Wisconsin VTAE Districts have been instrumental in attracting and holding industry and business for the state. Recently we worked with the Fiskars Company of Finland to provide start-up training for approximately 100 employees in a scissors manufacturing plant--their first outside of Finland. We are providing metrics training for Drott Manufacturing Company employees--Drott is a division of J. I. Case. Wausau Metals work force is made up of 65% of our graduates. The examples are numerous and the testimonial support of business and labor leaders in our area is gratifying--it attests to our economic impact.

Needs at the State and Local Level

Logically, you have raised the question of needs that exist at the state and local level related to vocational education opportunities. I feel they are as follows:

- A. The expansion of training programs in emerging occupational categories such as health, electronics, energy, etc... I feel the technological capacity of our country in the future is directly related to our ability to recognize early the new and emerging job classifications and prepare appropriate training responses.
- B. The expansion of training programs in high job demand fields. These would be fields where we now have a greater demand for graduates than may be available. Fields such as nursing, electronics, and data processing are examples.
- C. Increased emphasis on retraining and upgrading of adults. Because of changing technology, the demand for such service is on the increase.
- D. Continued emphasis on job training for special needs groups including minorities, women, and handicapped to improve access and equality of opportunity. These groups, as I feel you are keenly aware by your previous legislative actions, require a good deal of special assistance to ensure successful mainstreaming in the educational environment.

Improvements That Would Be Made with Increased Funding for Vocational Education

Slightly over a decade ago when vocational education in Wisconsin expanded dramatically as I have described previously, there was a good deal of federal assistance available for some of the added costs of developing and operating vocational-technical programs. These added costs still persist as we look to the future and concern ourselves with the need to expand and improve vocational education opportunities. Consequently, my list of improvement concerns would be addressed with funding incentives for:

- A. Replacement equipment purchases in dynamic technologies (electronics, laser, data processing, etc.,) and facility remodeling to accommodate training programs from merging technologies.
- B. Curriculum development costs associated with more dynamic technologies. Keeping programs such as electronics, data processing, laser technology, and health occupations up-to-date is an extremely costly venture. Recently we implemented a program to train laser technicians. This program took two years of study to develop, a new facility, and very expensive instructional equipment. It is one of seven such two-year programs in the United States.
- C. Instructor upgrading, especially in dynamic technologies like electronics, data processing. With the increased federal emphasis on vocational education in the mid-Sixties, many new and well qualified instructors were employed. However, keeping these individuals up-to-date is a grave problem for the future and has a lot to do with our continuing capacity to be successful as I noted earlier. Although we have over 400 persons on advisory committees--the competencies of our instructors is still basic to relevant training.
- D. More emphasis on career decision making instruction. The fact that in our society individuals are retraining and/or upgrading themselves at an ever-increasing rate as evidenced by the increase in our so-called older adult enrollment in Wisconsin, it is necessary for us to provide improved assistance to individuals on processes for making their career decisions.
- E. Maintaining and expanding services to special needs groups. It will be necessary to continue to improve services to special needs groups including the disadvantaged and handicapped and women. Continued emphasis must be maintained in future legislation to ensure that proper attention is paid.

In summary, I expect that oftentimes as you view the problems of funding legislation such as vocational education, you find yourself facing the question: "What impact will additional federal dollars--\$100 million, \$300 million, or whatever--have on improving vocational education services?" You may also hear those who condemn federal vocational education funding and say that the federal dollar is having little impact--that the amount of funding is too small to really make a difference. Well, I would hope that some of the statistics of what has happened in Wisconsin would cause you to feel otherwise. I feel that we have demonstrated that with federal investment the impetus can be provided to direct local resources to improve the social and economic quality of life in our state and in the country. Granted, perhaps not all states can demonstrate this. However, I think it is time then to look at the ingredients that have made for success in our state. These include monies for buildings, equipment, high standards for teachers, and monies for the special needs audiences we must serve. Attention to these areas should be a part of future planning to ensure that our nation's capacity to improve human resources is maintained and/or expanded.

Another way to examine the continued need for a federal role in vocational education is to examine the world scene. When we work with less developed countries, I think it is safe to say that the first thing they want from us is our technology and the second is the capacity to produce the human talent necessary to develop and expand that technology in their setting. This fact alone, aside from any of the other data I have presented, I think, demonstrates the importance of keeping a national focus on the improvement and expansion of vocational education opportunities.

This is especially important at a time in our history when public concern for property tax is substantial. Recognizing that most schools are funded with a heavy percentage of funding from local property tax, and many operate under legislated spending controls--federal dollars become an important source of

funding support for expansion and improvements.

Thank you for the opportunity to share my views on the importance of continuing a national emphasis on vocational education. I am confident that the opinions I have expressed would be echoed by the majority of the 200,000 citizens of my district. This premise was supported in the results of a recent random survey conducted by the League of Women Voters of some 1,837 citizens in our immediate service area. An inquiry was put forth asking citizens to rate all government services. Our district was rated as excellent or good by 94% of those surveyed with no fair or poor ratings. This was the highest rating of any government service and far higher than any other educational institution. This rating came after Proposition 13 and in an area where 60% of our operating resource comes from local taxes.

I welcome your questions and/or requests for expanded information on any of the material presented herein.

State of Wisconsin

BOARD OF VOCATIONAL, TECHNICAL & ADULT EDUCATION

EXHIBIT A

CLYDE R. HENSLAWN, State Director



State of Wisconsin

EXHIBIT B

BOARD OF VOCATIONAL, TECHNICAL & ADULT EDUCATION

EUGENE LEHRMANN, State Director



VOCATIONAL
TECHNICAL & ADULT
EDUCATION DISTRICTS
AND FULL-TIME CAMPUSES
...with Adult and Outreach Centers

■ Full-Time Designated and Approved Programs

● Adult and Outreach Centers

EXHIBIT C

AGE BREAKDOWN
OF
WISCONSIN VTAE DISTRICT ENROLLEES

<u>Age Group</u>	<u>Percentage</u>	
Under 18	4%	
18 - 24	32%	(Percentages are rounded off so that the total exceeds 100%.)
25 - 34	30%	
35 - 44	17%	
45 - 54	10%	
Over 55	9%	

EXHIBIT D

WISCONSIN VTAE DISTRICT
POSTSECONDARY LEVEL ENROLLMENT GROWTH

<u>Academic Year</u>	<u>Postsecondary</u>	<u>Continuing Education</u>	<u>Total</u>	<u>Percent Change</u>
1967-68	42,621	147,218	189,839	---
1970-71	52,480	188,867	241,347	27.1%
1973-74	80,722	267,182	347,904	44.2%
1977-78	116,000	311,405	427,405	22.9%

(SAMPLE YEARS FROM LAST TEN YEARS)

1978-79 VTAE DISTRICT
EXPENDITURES BY REVENUE SOURCE

Local Taxes	\$109,457,470
State Assistance	46,202,790
Federal Sources	20,261,857
Tuition and Fees	19,696,108
*Miscellaneous	38,362,053
	\$233,980,278

*This item includes revenue from bond issues, sale of property, sale of equipment, etc.

**STATEMENT OF DR. DWIGHT E. DAVIS, DISTRICT DIRECTOR,
NORTH CENTRAL TECHNICAL INSTITUTE, WAUSAU, WISCONSIN**

Dr. DAVIS. Mr. Chairman and members of the committee, the perspective of my remarks, as Dr. Bottoms has pointed out, is that of a chief administrator of a local technical institute of which there are 16 in the State of Wisconsin. The institution which I am responsible for is a postsecondary technical institute, meaning that we deal with individuals after they leave high school.

This year from our institution, or from our district, we are going to put 1,000 people into the North Central Wisconsin labor market in their first job. In addition to that, we are going to put out approximately 16,000 individuals in our district whom we have retrained, or upgraded for either a new job or their present job. That is one measure of our mission.

These individuals are going to go into career fields—the ones that are going out for their first job—that involve registered nurses, electronics technicians, computer programmers, secretaries, laser technicians, farmers; we trained 300 apprentices this year. We have 500 emergency 115 medical technicians. We trained welders. We trained people who are deaf and 90 people who are blind.

In addition to that, our services in the area of retraining and upgrading we work extensively with business and industry in the North Central Wisconsin area, as do the technical institutes throughout the State of Wisconsin. For example, at present we have a company in our major service area called the Drott Manufactur-

ing Company, which is a division of J. I. Case, and in turn a subsidiary of TENNECO. We are currently working with them, 600 employees in their local establishment, upgrading all those employees in the area of metrics because of a metric conversion in their plant.

Recently, we were involved in the start-up training of 150 employees for the O.Y. Fiskars Company—some of you may be familiar with an orange-handled scissors that your wives may use at times—that is a product of that company. This is their first plant outside of Finland, and the company dates back to the 1600s. They have moved to the Wausau, Wisconsin area.

We are training welders, 175 of them, in the next 30 days for the Loed Company, which is a metal fabricator in the Wausau area.

If the president of the Wausau Metals Company were here today, Mr. Larry Niederhofer, he would tell you that 65 percent of his work force are graduates of our institution, and that those workers have been a major part of the fact that his company has more than quadrupled in size and profitability over the last five years. He has a graduate of ours that I spoke with yesterday morning, who graduated from our mechanical design program just five years ago, that is now making \$30,000 a year for him, in the City of Wausau.

We have 115 county clerks and assessors involved in upgrading work. I can go on and on and talk about specific services that are a part of vocational and technical education in the district that I represent, and in turn in the State of Wisconsin.

I am making these points only because I think it is important for you to know as committee members that the initiative that you started many years back, over a decade ago, is in fact making a difference. Vocational education today is more than just auto mechanics, welders, and the like. We are involved in still doing those things, but we are doing much more than that.

Again I point out that in the district that I represent we are training people in over 40 different career fields. The district that I am associated with serves a population base of 200,000 people. We cover parts of ten counties. We have two main campuses, one in Wausau, Wisconsin, the other in Antigo, Wisconsin. In addition to that, to serve this large number of individuals in retraining and upgrading, we lease some 40 different locations, and we do this with a high expenditure of funds, some \$10 million in our area. That is the district that I am a part of. In the State of Wisconsin we have 37 postsecondary campuses that are fulltime campuses that operate all day long and on through the evening 600 other training sites, and this year we will spend \$233 million to deliver vocational education, \$20 million of which is coming from Federal sources, and about \$12 million of that \$20 million comes from the Vocational Education Act. That, in turn, is split between secondary and postsecondary education with roughly, I believe, about \$7 million of it staying at the postsecondary level, the other going to the secondary level.

Again I want to emphasize, however, that my perspective is the postsecondary level; that is the type of institution I am affiliated with.

I know that when people appear before you, you are often bombarded with these kinds of statistics, as to growth, service, etc. I only make these points not to bore you with them, but to point out that the initiative that you started over a decade ago is in fact happening in Wisconsin. That the money that was provided through the Federal Vocational Act for facility development, curriculum development, equipment purchase, is in fact making a difference.

The districts such as I have described them are new in the last ten years, really, even though the vocational education effort in our State dates back to the early 1900s. As a result of the initiatives in the '63 Act, and in the subsequent amendments, these districts were formed, and in fact the services in Wisconsin have been augmented.

Let us look at some of the factors that prove further the point that the initiative at the Federal level, the dollars spent, made a difference. A decade ago our enrollment in Wisconsin was 80 percent male. Today, this year, that enrollment, we figure, will be around 58 percent male. We are bringing many more females in to vocational education. The enrollment overall in our State has grown by three times in ten years. So, our total service to our population is three times this large this year as it was ten years ago.

Another way of looking at that, that I know we find to be of interest, is that one out of every eight people of voting age this last year was involved in at least one course in one of our 16 vocational technical institute districts in the State of Wisconsin. In that population base about a third of our enrollment is minorities—that was not true ten years ago, and we are serving many more handicapped than we did before.

Our service, in the postsecondary system—as you would surmise—is primarily to adults. But an interesting part of that, that I have included in my written material submitted to you earlier, is the fact that 30 percent of our enrollment in the State of Wisconsin is between the ages of 25 and 34. This accounts for the statistics that I cited earlier, where I pointed out that we were training this year approximately 1,000 people for their first job, and approximately 15,000 people retraining, or engaged in upgrading. That is reflected in the age distribution that we see.

The bottom line is not only enrollment, but I think enrollment growth is important because it attests to the fact that since we are totally elective, people are not required to come to us, and they have to spend their money for tuition, to come, that enrollment growth demonstrates that the citizens in Wisconsin—one out of eight of voting age—feel that what they are going to get through our vocational technical institute is important. This past year 94 percent of our graduates were placed, and that was important to the economy of Wisconsin, since 90 percent of those people stayed in the State of Wisconsin and became a part of filling the new jobs in the State, as well as continuing to help business and industry expand.

I think, really, that is the bottom line. You heard Mr. Galloway cite earlier from his State, what has happened by way of economic impact to those people.

The effectiveness of the programs has in part been evidenced, I think, by the enrollment growth; by the placement rates. I think it

is evident in that we have provided, as is encouraged with the Federal initiative, equality of opportunity. More women are involved today. I expect that next year it is going to be almost 50-50 in our State in terms of males and females, as the population that we serve goes up.

I pointed out to you, in our own district, our services to deaf and blind. I wish those people, some of them, could be here. The emotional impact in what they have to say what vocational education and technical training means to them, I am sure, would be far more impressive than what I can share with you.

We are bringing women into non-traditional fields. I could go down the list. We have 22 of our 62 enrollees in our police science training, that are females. We have 17 of 23 enrollees in our printing program. Again, I could go on with others.

I think vocational education is effective from a social and economic point of view when you look at what it has meant for the quality of life of the individuals that we serve. Where else would this volume of people receive the training and the resultant economic gains were it not for the vocational technical system that has been put into place? I submit they probably would not.

From an economic point of view, I guess I could sit here and give you a series of "for instances" of income levels, and how many times that income rolls over, but I guess it would be more impressive if you heard from the industrialists, or the people themselves.

Again, I think it is significant to note that because we are serving adults, we are working very closely with business and industry in our State. In our district alone, we have 400 business and industry reps, on our advisory committee.

Most of our programs have waiting lists, and that is not just in the health fields, either. Our laser technology program has a waiting list that is four times the enrollment level; we take 40 people a year. Our electronics technology program, our waiting list is three times the 60 people we take a year. In nursing, of course, we take 90 and we have a waiting list of 300.

That attests to the fact that employers want our students and students want our training because it is economically meaningful and beneficial to them.

What are the needs that we see? One need is the expansion of technical training programs in emerging occupational categories. It is costly to develop those programs, programs in health, electronics, energy. We no longer, as was the case ten years ago, have the funds to spend on the high expense of development on that. We just put in a laser technology program in our district, and the development of that program cost us over \$100,000 in front-end costs to do the research necessary to ensure that the training we were going to provide would be relevant and meaningful in response to the industries that wanted it.

I see the need to expand training programs in high job demand fields. I have indicated to you, and I know from your comments earlier, Mr. Chairman, you are aware that many of our programs have waiting lists, and I think we need help in expanding training in some of those areas.

I think we need an increased emphasis on retraining and upgrading of adults. I think all of us daily see what rapidly advancing

technology in our society is meaning. To stay on top of that technology we have to concern ourselves not just with the people we are training for their first job, but retraining our workers.

I think we need to continue the emphasis that presently exists in the act on services to special-needs populations like minorities, women, and the handicapped. We have just begun in that effort, and it is a high-cost effort. It is one that has a lot of added costs associated with it that, with the advent of taxing limitations, cost controls, and so forth at the local level the Federal initiative in that regard is meaningful to people like me, as we attempt to put a budget together. The services that we are providing to the deaf and to the blind are highly supported with funds out of the Federal act. Were those funds to be depleted, those services would definitely be in question because of the high added costs.

What improvements would we make were the funding appropriation increased in the future? One would be that we would have to concern ourselves with replacement of equipment, especially in dynamic fields. It is an extremely difficult problem for us to stay on top of up-to-date training equipment needs in fields like electronics, laser, data processing, and the like.

But the quality of our equipment facilities, as you recognized in the initial legislation, is extremely important to the relevancy of the product that we produce.

Another improvement would be that we would spend more money on curriculum development and costs, and more dynamic technology. We would spend more money on instructor upgrading. What we do, again, is not just the quality of our facilities and our equipment, but it is also dependent upon the relevancy, the up-to-dateness of our staff. Again, as I noted earlier, we spend more time and money on expanding services to special needs audiences.

A lot of what I have told you, you probably already know. However, I wanted to say it for reason of emphasis, to substantiate the fact that in Wisconsin vocational education has grown as a result of the Federal initiative. The small amount of money in proportion to the overall expenditure has directed the funds, has given the direction, the initiative, that is necessary to build a meaningful vocational education system.

I recognize that you do not expect me to sit here and be self-critical of that system, and you expect that I would be an advocate. However, I would point out that I think my advocacy would be supported by the constituents that I serve in the North-Central Wisconsin area.

To give you one mark of that, I think many of you are aware Wisconsin has a lot of county fairs. This fall, the League of Women Voters in the City of Wausau at a regional county fair took a random survey and surveyed all government services in the area, asking people randomly as they came into the fair to rate those services. The vocational-technical education district of which I am a part was ranked by those people as the most valuable of all government services that exist in the North-Central Wisconsin area. Ninety-four percent of the people surveyed rated the services of our institution as either excellent or good, with no fair or poor ratings. There was no other service that could demonstrate that kind of success.

I point that out to you, along with the fact that one out eight people of voting age, as I noted earlier, took a course in a Wisconsin technical institute district last year. These things attest to the fact that vocational education is doing the job. The moneys you have provided, have provided that initiative. There is much more work yet to be done, as I have tried to emphasize.

Thank you very much.

Dr. BORROMS. We will now hear from Mr. Harold Huffman from Kentucky, who will talk about the need to increase Federal investment.

[The prepared statement of Mr. Huffman follows:]

*Bowling Green-Warren County***INDUSTRIAL FOUNDATION, Inc.**

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February 23, 1979

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Executive Vice President
General Manager

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Honorable Carl D. Perkins
House of Representatives
Committee on Educational Labor
Room B-346-C, Rayburn House Office Building
Washington, DC 20515

Dear Mr. Perkins:

Thank you for inviting me to testify at the hearing on vocational education on Thursday, March 1, 1979, at 9:30 a.m. I have worked very closely with vocational education over the past twenty years, and will be happy to testify.

I am enclosing 50 copies of my written testimony, and will be prepared to present a brief oral testimony.

Thank you again for this opportunity to have some input in bettering vocational education, and I shall be looking forward to seeing you next week.

Sincerely,

Harold H. Huffman
Harold H. Huffman
Executive Vice President

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Enclosures

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My name is Harold Huffman and I am Executive Vice-President and General Manager of the Bowling Green - Warren County Chamber of Commerce Inc. and Bowling Green - Warren County Industrial Foundation, Inc. in Bowling Green, Kentucky. I am also a member of the Regional Advisory Committee for Vocational Education and a member of the State and Regional Manpower Planning Councils.

Vocational education has been very effective in dealing with major social and economic issues in Kentucky and especially in the Bowling Green area. One of the major contributions of vocational education to the economy is its effectiveness in attracting industry and business to the area and, as a result, creating new jobs. Between 1968 and 1978 the Bowling Green area has acquired 2.9 million square feet of industrial manufacturing space which has been responsible for the employment of 4,000 people. Of this number 3,000 have been trained through the Vocational Education Programs. At least 1,500 of this number had previously been unemployed or on some type of welfare. We realize that this growth is the result of many factors but had it not been for vocational education training being available we do not believe that the Bowling Green area could have attracted this industry. Almost every industry that expresses interest in locating in our area wants to know the type of vocational training offered. The Chamber of Commerce makes a regular practice of taking prospective business and industry personnel to the vocational school for a look at their programs and facilities. In a research study prepared by the Economic Research Department of the Chamber of Commerce of the United States, on "What 100 New Factory Workers Mean To A Town" it was found that for each 100 jobs added to the community, the amount of personal income added per year is \$1,036,000.00, bank deposits increase by \$490,000.00, and retail sales increase by \$565,000.00 and 68

more persons are employed in non-manufacturing jobs. Retail sales in Bowling Green - Warren County have increased from \$34,791,000.00 in 1960 to an estimated \$283,780,000.00 in December, 1978. During the same period deposits in financial institutions have gone from \$33,911,796.00 to \$379,957,887.89. We believe that vocational education played a major role in bringing about this change.

As vocational education contributes to the overall economy by helping to create new jobs, it simultaneously is impacting upon the social needs of the community, because each time a non-skilled worker is trained and placed in a job, most likely the standard of living for that worker and his family has been raised. As a result of un-employed persons securing employment, we have fewer persons on welfare.

Vocational education programs which have helped attract industry to the Bowling Green area include programs in:

Auto Mechanics	Electricity	Tool and Die Making
Auto Body Repair	Electronics, Technical	Electronics Servicing Occupations
Carpentry	Graphic Arts	Welding
Civil Technology	Machine Shop	Health Occupations:
Commercial Foods	Masonry	Practical Nurse Education
Drafting I	Refrigeration and	Respiratory Therapy Technician
Drafting, Technical	Air-Conditioning	Pre-Health
Distributive Education	Secretarial	Surgical Technician
	Small Engine Repair	Health Careers

The vocational Health Programs offered in our area are extremely vital to our community which is fast becoming a medical center. One of our prominent surgeons made a statement recently at Rotary Club that it would be difficult to keep our hospitals open and functioning were it not for the vocational programs being offered in the Health field. The vocational health programs are meeting a great need for necessary personnel to serve not only the hospitals, but nursing homes, dentists, clinics, doctor's offices, emergency medical programs, social service type nursing for the elderly, etc. We have had the licensed practical nurse program in our area for some time;

we have recently added a respiratory therapy program as a request from hospital administrators in the area. We have on-going programs in surgical technician, dental assistant and health careers.

Our vocational Business and Office programs and Distributive Education programs have made a great contribution to our economy thru cooperative programs in working with the business people and providing on-the-job training.

Home Economics programs are serving the needs of many people. Many are qualifying for employment through programs in Commercial Foods, Child Care Services, and other gainful courses. Homemakers are much better prepared to meet the demands of homemaking as a result of the relevant training received in the Home Economics programs.

The vocational agriculture programs are doing an outstanding job of training young men and women to be successful in agri-business, production agriculture, conservation and natural resources, horticulture, agricultural mechanics, and diversified agricultural occupations. Thru the Future Farmers of America organization many individuals have started some type of business operation.

Another major part of vocational education that has had a great effect on the economy is the adult upgrade or supplementary classes which are being offered. These have meant much to the social and economic well being of individuals, and have not only helped these individuals keep their jobs, but aided them in getting better jobs, because of vocational training. In the Bowling Green area, 180 classes are being offered this year to assist approximately 3000 adults in upgrading their skills. We would like to see these supplementary classes expanded and increased.

Both the Chamber and the Industrial Foundation are pleased with the efforts being put forth by vocational education to increase the number of minority groups coming into the labor market. One school in the area,

Russellville Area Vocational Education Center, Russellville, Kentucky, has one or more women enrolled in all their traditionally male programs. Special emphasis is being placed on recruiting minority groups into vocational programs. One of our outstanding students in the Bowling Green State Vocational-Technical School Machine Shop program is a young black lady who is working in Glasgow for Eaton Axle Company during the day and coming to the evening Machine Shop class to upgrade her skills. She had at least one year of college, before entering the Machine Shop program.

Another effect vocational education has had on the economy is the training of handicapped persons. Employers in the area are looking for handicapped persons who have some type of skilled training. We had a young man at the Bowling Green State Vocational-Technical School who was an amputee, and a young lady confined to a wheel chair in the Offset Printing program. Special vocational education funds for handicapped were used to purchase special equipment to enable these two students to reach the controls on the headliner machine. The young man is now employed by a printing company in Franklin, Kentucky.

The population in the ten county area in south central Kentucky is expected to increase from 198,900 in 1976 to 272,300 by the year 2000. Projected employment trends indicate a strong growth in all areas of employment, except mining, through 1985.

There is a work force of 91,158 persons in the Bowling Green area. It is estimated that there are some 21,462 people in the area who are either unemployed or underemployed. An estimated 18,316 persons needed manpower services during fiscal year 1978 of which 3,225 were veterans and 1,981 were Vietnam veterans. Economically disadvantaged persons needing manpower services numbered 9,289 in 1978.

The median school years completed for males over age 25 is 8.5 and 9.1 for females. This indicates a strong need for much advanced training for many persons in order for them to fully realize their potential. Approximately 29 percent of those who start to high school do not graduate. This leaves many with a need for further occupational training.

There are 2,523 persons identified as having mental or physical handicaps in the age group 6 - 19. In 1970 twenty-four point eight percent (24.8%) of the people in this Region were classified below poverty level. The non-white population of the ten-county region totaled 14,309 persons or 7.2% of the total population. There has been a slight decline in the percent of non-white population in the past ten years. More available training should inspire these non-white persons to remain in this area and become employed tax paying citizens.

There are many needs at the State and local levels for vocational education for youth and adults in order to meet the occupational demands that have been identified. Additional training programs based on Job Market Analysis need to be provided. Immediate needs exist for training programs in the following areas:

Diesel Engine	Dental Technician	Sales Workers
Industrial Electricity	Clerical	Food Service Workers
Plumbing	Energy Conservation	Construction Workers
Radiological Technology	Industrial Plant Maintenance	
Medical Assistant		

Increased funds for programs would assist in making better use of facilities because more preparatory programs could be offered on late afternoon and evening shifts.

Many vocational programs now have waiting lists of applicants, but funding is inadequate to offer additional classes. One example is the Licensed Practical Nurses class which can enroll only 40 students. There are 131 applicants on the waiting list.

Adult upgrading classes need to be expanded in order to meet the needs brought about by the new technological advances. These classes serve to improve performance of individuals on the job, and enables them to keep up-to-date and retain their employment.

Updated and relevant equipment that meets the current needs of industry is a must. It is essential that appropriated funds include monies for this equipment.

Many improvements can and will be made with increased Federal funds in order to assure that vocational programs have a greater role in addressing the job training needs of youth and adults.

New training programs can be implemented to meet the challenges of energy conservation, environmental control, and other technical and social changes.

Additional student personnel staff would assist in the Placement and Follow-up of students by working more closely with Bureau for Manpower services. This would also help document the effectiveness of the programs and continue to improve programs as a result of the follow up.

A larger number of disadvantaged, handicapped persons, and unemployed youth could be served through adequate programs. An expanded student personnel services staff (guidance) will provide more outreach programs. This would enable vocational education to locate more persons who are school dropouts, unemployed and underemployed. This would also provide expanded guidance services to those currently enrolled in order to enable them to achieve employability skills to help make them become more successful in business.

The cooperative work experience programs can be expanded to insure that all students who desire on-the-job work experience be served. Additional remedial programs can be provided to assist the underemployed and unemployed

to earn the GED (high school diploma) and upgrade math, reading and other needed skills.

In summary, I firmly believe that adequate funding of Vocational Education will do much in dealing with the major social and economic issues of today. The changing occupational demands can be identified and served much better through adequately funded vocational programs. Last, and perhaps most important, the individual training needs of a variety of both youth and adults can be met.

STATEMENT OF HAROLD H. HUFFMAN, EXECUTIVE VICE PRESIDENT, GENERAL MANAGER, BOWLING GREEN-WARREN COUNTY CHAMBER OF COMMERCE, INC. AND BOWLING GREEN-WARREN COUNTY INDUSTRIAL FOUNDATION, INC., BOWLING GREEN, KENTUCKY

Mr. HUFFMAN. Thank you, Dr. Bottoms.

Mr. Chairman, Congressman Perkins, and members of the committee, I am Harold Huffman, and I am executive vice president and general manager of the chamber of commerce in Bowling Green, and also the Industrial Foundation. I serve on several committees, vocational education committees, along with manpower committees, in the State of Kentucky.

I appreciate the opportunity of giving you some grass-root views. As you know, I do not have a "doctor" in front of my name, so I feel out of place here, but I do feel at home since I had breakfast with these gentlemen.

Back in the early 1960s in Bowling Green, in that area, when Governor Breathitt was governor of the State of Kentucky, we made a request for a modern vocational school, which we knew was needed and would be very important to our overall economy. The governor agreed that one would be built if the community would furnish the land. Even in the early '60s our people got out and raised the money, took the deed to Frankfort and gave it to Governor Breathitt, and he built the school.

The present vocational facilities were able to move at that time from antiquated quarters on the university campus there, which was a college at that time. They were old Army barracks, not adequate for the needs for our first-grade class. Now, we have one of the finest vocational schools in the country.

As a result of many requests for services from business and industry, there is now being constructed an additional 65,000 square feet which will give us the tools to continue attracting new industry and new business to the area, allowing many of our youths and adults to get proper training for new jobs, upgrading their present jobs, which is so badly needed because a very small percentage of those starting in high school do not finish.

As an example of our excellent vocational facilities—I have been in this office that I hold now, it will be twenty years this coming July—we have brought in forty major industries and expanded industries that have located in our area since the early '60s. Vocational education played a very important part. If it had not been for vocational education we would have gotten about half that many.

As another example I would like to call to your attention, we talked to the Chrysler Corporation about building a facility in Bowling Green—they had already decided to build in our neighboring Tennessee—and we convinced them that Bowling Green was the place. They agreed. They only agreed after our governor agreed to appropriate \$60,000 to establish a welding program which was so badly needed. That welding program not only helped this company to employ upward of 1,700 people, but it has expanded and expanded, and now we need additional expansion to take care of the youth, and the adults.

By making this program available at the vocational school, the size of this building that was built in early 1969 was 585,000 square feet. The same type of situation has existed with 75 or 80 percent of our industries that look at and select Bowling Green, and they all say, "Do you have a vocational school?"

Approximately 90 percent of our industries and many of our businesses have progressed due to the fact of the fine courses that are offered in our schools—such as auto mechanics, body repair, carpenter, several technologies; commercial foods, drafting, distributive education, electronics, graphic arts, machine shop, masonry, refrigeration, air conditioning, secretarial, small engine, tool and die, electronics, welding and health occupation.

One of the many needs that I would like to call to your attention, there is a course of licensed practical nurses' program there. They have forty people enrolled in it. Now, due to a lack of space and teachers, we would have another 131 enrolled in those classes because that is how many are on the waiting list as of last week.

We have been very successful in locating a diversified industrial base set up—take our tourism and the industrial situation that exists there. I would like to give you the four figures here that have been created, that have been caused due to our diversified growth. I would like to call your attention to one other, the Union Underwear Company, which operates 16 or 18 plants and mills, moved their world headquarters, they are now building a world headquarters on Interstate 65 in Bowling Green. They moved it from New York. I think this is a compliment to many phases of our training program and education because they see what we have to offer in the State of Kentucky.

In 1960, retail sales in our small County of Warren, Congressman Perkins, were a little over \$34 million. Eighteen years later—I use those figures because that keeps my job there, these things that are happening—in 1978, eighteen years later, these figures have risen from \$34 million to \$283 million. This could not have happened if it had not been for some of the vocational education programs.

Bank deposits, which we like to talk about, in December 1960, for that year, were \$33 million-plus; and in December of 1978 they had

gone from \$33 million to \$379 million. This could not have happened without the excellent vocational systems that we have.

These are only a few of the pluses, I have covered them all in my written testimony which I have sent earlier. This is why our community—and many communities, given the opportunity and the leadership—could progress like this. This has kept our employment at a high peak and our unemployment at a very low peak.

Congressman PERKINS, I would like to read a memo here from Tom Fields, who is director of Industrial Development for the State of Kentucky. It is dated February 22, 1979. I think this will have some bearing on you gentlemen, on your thinking, that you can present to get the money to help carry these programs on.

It says, "Dear Harold. I have particular concern about the need for vocational training that you may want to express during your forthcoming testimony in Washington. I believe there is a tremendous need for the American worker to sharpen his skills in preparation for an almost total shift away from the work that can be done with little training or for very low wages.

"The next suit or pair of shoes you or I buy could very well come from a Second or Third World nation, as will many other products of the soft goods category, there are vast pools of labor in these countries available to produce these goods at a fraction of our labor costs. Even if we export the basic materials and then import the finished product, the total manufacturing costs will generally be less.

"This shifting of the point of manufacture can create an ever-expanding pool of unemployed labor in this country. These emerging nations are far from having developed the skills among the masses that would be suitable for high-technology manufacturing. This is something that we in this country can do and they cannot. And the need for us to produce and export products requiring higher skills will increase as the buying power of these nations increases.

"As the world market for our high-technology products expands, we will then have a place for those people that have in the past been employed in the manufacture of soft goods. However, the training they have received, or would have received had jobs been available, is insufficient for the more complex jobs. More sophisticated training will be required. Along with this will be the need for more training funds."

In summary, I firmly believe that adequate funding of vocational education will do much in dealing with the major social and economic issues of the day. The change in occupational demands can be identified and served much better through adequately funded vocational programs. Last, and perhaps most important, the individual training needs of a variety of both youth and adults can be met if we can get \$981 million, so these fine gentlemen can carry on the program.

Thank you.

Chairman PERKINS. Thank you very much.

Dr. BOTTOMS. Now we will hear from Dr. Bob Taylor, the director of the Ohio Center for Research and Development.

Chairman PERKINS. Let me ask you if you could summarize. Mr. Goodling, the Ranking Minority Member, and many others have

several important votes coming up here at 11 o'clock, and I would like to finish. I would like for the members to have a chance to cross-examine you gentlemen; they have several questions. If you could summarize and insert your statement in the record, in view of the shortage of time here this morning, I would appreciate it. Go ahead.

[The prepared statement of Dr. Taylor follows:]

STATEMENT

TO

THE SUBCOMMITTEE ON ELEMENTARY,
SECONDARY AND VOCATIONAL EDUCATION,
COMMITTEE ON EDUCATION AND LABOR

BY

DR. ROBERT E. TAYLOR
THE OHIO STATE UNIVERSITY

I would like to commend the chairman and members of the Committee for providing this opportunity for vocational education representatives to share progress, problems, and the implications of appropriations for fiscal year 1980. I especially want to thank the Committee for its initiation and continual support of the program improvement activities that have been an essential part of the vocational education legislation since 1963.

In the time provided, I will review the (1) current context of vocational education, (2) role of Programs of National Significance, (3) unmet needs, and (4) consequences of a reduced appropriation for Programs of National Significance.

As you well know, one of the most significant dimensions to the 1976 amendments was continuing authorization for program improvement in areas of national significance through the five

percent set aside. In reviewing the intent and structure of the federal provisions for vocational education it is obvious that full appropriations for Programs of National Significance are essential to assure the integrity and internal consistency of the amendments. Such programs provide an increasingly effective and appropriate strategy for fulfilling the national leadership role. Programs mandated in this section of the legislation are designed to influence the quality and character of federal program investments and to impact on the 8.5 state and local dollars which overmatch each federal dollar. Further, these activities provide means to focus federal, state, and local resources on such problems as access, quality, and responsiveness of the vocational education system to national priorities. By providing essential research, development, training, planning information, and evaluation activities that are relevant and useful to large numbers of states, Programs of National Significance are cost effective in that they eliminate duplicative costs and accelerate program improvement.

RESEARCH AND DEVELOPMENT IMPACT

Probably the key question in the minds of Congress and taxpayers is, do these activities make a difference? Do research, development, and other efforts in this category impact positively and constructively on the vocational education enterprise? The general answer is yes. I'm confident that earlier investments in program improvement have made a

difference and that efforts currently underway promise even greater advancements. Even more importantly, we are beginning to assemble the elements of a nationwide program improvement capacity. Major elements such as the National Research Center, the National Occupational Information Coordinating Committee, State Occupational Information Coordinating Committees, State Research Coordination Units, and other evolving dimensions and relationships provide us with a mechanism to (1) more effectively utilize planning information, (2) establish priorities to impact directly on critical problems, (3) focus resources and R & D capabilities, (4) utilize R & D work completed in other states, and (5) more rapidly disseminate and implement the outcomes of research, development, and evaluation. There are variations in the kinds and amounts of improvements the various elements have spawned, and in many instances I believe there are improvements for which we do not have documentation. Let me describe three of a number of research and development projects which have been funded from Programs of National Significance.

Performance Based Teacher Education

Performance Based Teacher Education (PBTE) materials, developed at the National Center, address the widely recognized need to improve the professional preparation of thousands of secondary and postsecondary vocational teachers. Completed in 1977, this set of 100 self-contained modularized units has been sold to every state, five U. S. territories, all Canadian provinces, and fifteen foreign countries.

It is estimated that during the first year, 1,200 teacher educators have trained over 12,000 teachers in the implementation of PBTE materials and concepts. The publisher has supplied over 300 universities and colleges, over 175 postsecondary community colleges, over 200 local educational agencies, and over 250 businesses, industries, and other organizations.

Among the business and industry users are United Airlines, International Harvester, 3-M Company, Mobil Oil, Continental Baking, General Electric, U. S. Steel, Kodak, and IBM. In addition to these corporations, many commercial groups that we had not identified as potential users, such as insurance agencies, hospitals, utility companies, banks, department stores, and restaurant chains are also using the materials. Other groups using the materials include Indian Action Programs, State Departments of Corrections, a Women's Affirmative Action Program, CETA, Teacher Corps, the National Institute for the Deaf, Joint Apprenticeship Committees, Job Corps, and Peace Corps.

A considerable number of U. S. governmental agencies have also found the PBTE materials to be useful. These agencies include the U. S. Department of Agriculture (Forest Service), the U. S. Department of Justice (Federal Prisons), the U. S. Department of the Interior, the U. S. Department of Labor, and the U. S. Department of Defense (Army, Air Force, and Navy).

Guidance and Counseling for Rural and Small Schools

Since 1976, the National Center has completed three projects that relate to the guidance and counseling needs of individuals in secondary and postsecondary levels in the nation's 7,600 rural and small communities. Some of the critical needs of rural and small schools were found to be in the areas of: (1) career information, (2) program improvement guides, and (3) training assistance.

In an attempt to assist schools in improving their career guidance programs, the National Center developed the Rural America Series, and other supplementary materials (a total of twenty-four program guides). During a fifteen month period, 25,882 volumes of the Rural America Series were sold; 4,026 copies of Career Resource Centers were sold during a twelve month period; and 158 copies of Increasing Guidance Effectiveness were sold in four months. As a part of this effort, cooperative relationships have been developed between the National Center and other educational laboratories, R & D centers, universities, ERIC Centers, and such groups as the American Personnel and Guidance Association and the American Association of School Administrators.

The National Center has field-tested the Rural America Series to determine the potential impact of planning and implementation techniques and materials. Nine secondary and nine postsecondary schools were involved in the test. Through

this test at least 50,000 students have received increased skills and knowledge for transition from school to work; 200 community leaders have increased their involvement in program improvement; and 2,500 guidance providers are more competent in their attempts to improve their guidance programs. The states in the field tests were Washington, Kansas, Wisconsin, Michigan, Ohio, Texas, New Mexico, Maine, and Kentucky.

Due to unfamiliarity with guidance program planning, rural and small school personnel needed assistance in learning how to plan and use the Rural America Series materials. The National Center has attempted to meet this need in two major ways. First, The Facilitator's Guide for Training in the Use of the Rural America Series was developed. This document provides a workshop framework for assisting individuals in learning about the contents of the Rural America Series and has been used in the majority of rural guidance technical assistance workshops conducted by the National Center. Thirty-six technical assistance efforts have been completed. A total of 3,405 individuals have been trained in this manner (125 at the national level; 2,500 at the state level; 450 at the intermediate level; and 250 at the local level plus 80 CETA personnel). The technical assistance contracts have been with twenty-three state departments of education (e.g., Washington, Florida, Wyoming, Idaho, Mississippi, Ohio, Iowa, Kansas, Arkansas); five universities (e.g., University of Illinois, The Ohio

State University, University of Maine); six intermediate agencies (e.g., Iowa, Texas, Ohio, North Dakota, Michigan; and two territories (e.g., American Samoa and Puerto Rico). Through the technical assistance contracts, states such as Washington, Florida, Kansas, Iowa, and American Samoa have adopted the series on a statewide basis.

Guidelines for Sex-Fair Vocational Education Materials

Recent years reflect a change in the role of women in society. This has resulted in a definite need to modify the purpose and emphasis in existing vocational education programs to be more responsive to these trends. The U. S. Office of Education, Bureau of Occupational and Adult Education, contracted with Women on Words and Images to develop three distinct products focusing on reduction of sex-bias in vocational education. These products include:

1. Guidelines for Sex-Fair Vocational Education Materials.
2. Guidelines for the creative use of biased materials in a non-biased way.
3. A checklist for evaluating materials.

This set of products has recently been selected by the National Center as one of six from a nationwide pool of over 3,500 products for preparation for extensive nationwide implementation in vocational education. A principal factor for its selection was its potential for adaptability and implementation in a variety of settings.

THE CONTEXT OF VOCATIONAL EDUCATION

Obviously, Programs of National Significance should, and do, help vocational education relate to broader social and economic issues. There are a number of trends which have uniquely converged at this point in our nation's history to make the job of career oriented vocational training more difficult. These trends are not presented as an apology but rather in an attempt to establish a more realistic perspective in which to view vocational education and hopefully improve it. I might also add that these trends are not limited to the United States as similar trends exist in many of our Western democracies. These trends include:

- The postwar baby boom with unprecedented numbers reaching employment age and entering the labor market.
- Large numbers of women entering and reentering the labor force and rightfully competing for jobs.
- New laws and attitudes on retirement.
- An oversupply of college graduates which in many instances displace graduates of vocational programs.
- Low numbers of young people involved in military roles.
- Large numbers of alien workers.
- Income transfer programs and the potential disincentive they provide to job seeking and retaining behavior.
- Deficits in international balance of payments with attendant loss of domestic jobs.

These and other trends have focused and interacted to result in severe problems of unemployment, underemployment, inequity, reduced productivity, and inflation. The acuteness of these problems have literally overrun our social structures and resources for alleviating them.

In attempting to alleviate these problems, vocational educations' greatest contribution has been expanding opportunities for career oriented vocational training to those who need it including those who need it most, such as the disadvantaged, handicapped, postsecondary students and adults and in moving toward sex fair enrollments. Adjusting for inflation this has been accomplished with essentially no new federal support since 1972. Further, it is significant to note that in 1977, federal dollars per individual served is only \$33.07.

State and local jurisdictions have continued to increase their contributions for program expansion and improvement. This speaks positively for their assessment of the efficacy of vocational education. There is an urgent and long overdue need to reassert the federal partnership and leadership role in vocational education through an equitable investment from the federal level.

Nationwide Enrollment Trends

Vocational student enrollments have increased rapidly since 1971 despite shrinking federal support (in terms of total dollars and the effects of inflation rates). This

continued growth has been paralleled by an increased responsiveness of vocational education to demographic trends and social needs. Total enrollment in vocational education has moved from 10.5 million students in 1971 to 16.1 million students in 1977. This is an increase of approximately 9 percent per year.

- During the same period, secondary vocational education enrollment has increased from 6.5 million to 9.6 million. Vocational enrollment has increased substantially as a part of total secondary enrollments (grades 7-12). Currently (1977) half of all students are taking some vocational courses.
- Enrollment increases in postsecondary two-year institutions for vocational education have been even more pronounced-growing from 1.1 million in 1971 to nearly 2.4 million in 1977. This represents an increase of nearly 20 percent per year, and it exceeds the 12 percent yearly increase for general postsecondary enrollment.
- Enrollments in adult education programs have grown from 2.9 million to more than 4.2 million during the 1971-1977 period, representing a 9 percent per year expansion.
- Enrollment of handicapped students in vocational education has increased from nearly 203,000 in 1971 to over 344,000 in 1977. For the most part, this expansion has occurred in the last two years.

- Enrollment of disadvantaged students in vocational education totaled nearly 1.4 million in 1971. By 1977 this had increased to nearly two million students, a 7 percent per year increase. Here, recent trends reflect a slower growth rate, influenced perhaps by other programs targeted to these subpopulations.
- Since 1971, nonstereotyped enrollments in every program area, except office occupations, have increased. For females the biggest changes have occurred in expanded enrollments in agriculture and technical programs. Female enrollments in agriculture increased from 4 percent to 15 percent since 1971. Agriculture experienced a 43 percent increase in female enrollment from 1976 to 1977. In technical programs the increase was from 8 percent to 17 percent with female enrollment doubling--a 100 percent increase--between 1976 and 1977. Biggest increases for males in non-traditional enrollments were in health occupations and consumer homemaking.
- Enrollments of racial and ethnic minorities have also increased in vocational education. The enrollment has increased from under 2.8 million in 1975 to almost 3.7 million in 1977. Blacks represent 15.5 percent and Hispanics represent 6.7 percent of the total enrollment in vocational education. There is a difference between

the percentage of blacks in the total population (11.5 percent) and black enrollment in vocational education (15.5 percent). Black enrollment occurs primarily in secondary schools where blacks make up about 17 percent of the enrollment in vocational education; there is less difference in postsecondary and adult vocational education enrollments among blacks (12.8 percent for both).

NATIONWIDE VOCATIONAL EDUCATION ENROLLMENTS

	1971	1977	Percent of Increase	Percent of total Enrollments	
				1971	1977
Secondary Voc. Ed.	6,487,446	9,562,836	47.41	35	51
Post-Secondary Voc. Ed.	1,116,044	2,363,194	111.75	45	56
Adult Education	2,881,735	4,028,949	46.06		
Handicapped	202,910	344,041	69.65		
Disadvantaged	1,193,356	1,956,011	40.38		

These data were drawn from regular statistical reports submitted to USOE by each of the states and territories. These data have been aggregated by the states using a variety of definitions and practices. Given these difficulties, the data represent the best information available on the status of vocational education in the United States.

In 1976, Congress mandated that a new national data system be developed for vocational education under the sponsorship of the National Center for Educational Statistics. This system (Vocational Education Data System) has undergone a feasibility study and is presently securing the various clearance procedures for data collection. The Office of Management and Budget has approved part of the data collection instrumentation. However, the Committee for Education Information Systems (CEIS) has been reluctant to sanction this effort due to the costs involved in this federally mandated system. VEDS represents the critical path for improved data on vocational education and when finally implemented, common definitions and data elements across states should become a reality.

Job Placement in Vocational Education

In the period between 1973 and 1977, follow-up information was available for approximately 8.4 million people who completed vocational education programs. Sixty-nine percent or 5.8 million people were available for employment. Of those available for employment, approximately:

- 90 percent became employed.
- 65 percent were employed in related fields.
- 25 percent were employed in another field.

During these five years, approximately 2.6 million were vocational education program completers not available for employment. Seventy-one percent or nearly 1.9 million of these were continuing their education. Of those, many were in postsecondary and adult vocational education programs. A portion of the remaining 29 percent was in the military.

Secondary vocational program completers represented 65 percent of total program completers. Sixty-one percent of those were available for employment. Of those available for employment, approximately:

- 88 percent were employed.
- 59 percent were employed in related fields.
- 29 percent were employed in another field.

Of those not available for employment, approximately 75 percent were continuing their education.

Postsecondary program completers represented 22 percent of total program completers. Eighty-five percent of those were available for employment. Of those available for employment, approximately:

- 93 percent were employed.
- 76 percent were employed in a related field.
- 17 percent were employed in another field.

Of those not available for employment, approximately 54 percent were continuing their education.

Adult program completers made up about 13 percent of the total number of program completers. Eighty-two percent of the adult completers were available for employment. Of those available for employment, approximately

- 91 percent were employed.
- 67 percent were employed in a related field.
- 24 percent were employed in another field.

Of those not available for employment, approximately 50 percent were continuing their education.

There have been some concerns about the accuracy of follow-up data reported by states. Five states have verified their follow-up data. Two basic methods were used--collecting the same information from two sources and making comparisons or having a second party confirm the data through its own procedures. The percentage of agreement ranged from 99 percent to 77.5 percent. In many other states where reliability of data has been verified by less formal methods, the data were found to be sufficiently reliable to be used as one basis for decision making in vocational education. On the issue of reporting relatedness to training, a University of Minnesota study concluded that graduate self-reporting was as reliable as three other methods (researcher classification, census classification, and DOT titles).

Other Effects of Vocational Education

During the coming year, the National Center in consort with the vocational education studies project at the National Institute of Education will jointly review studies on the effects of vocational education reported since 1968 and attempt to aggregate the results. While these studies did not use national longitudinal surveys and short term placement data required by states, they are methodologically sound and investigate economic, educational and social outcomes.

Evidence on the effects of vocational education is not conclusive and in some instances is contradictory. However, several substantial studies and placement data do reveal positive outcomes from vocational preparation. In my judgment, the burden of proof rests with those who claim no significant difference.

The following are highlights from several studies which give some insight to vocational education.

National Longitudinal Study of the High School Class of 1972 (NCES Sponsored) 1977

- Compared to general education students, vocational education students achieved higher grades, were less alienated toward school, and were more focused in their postsecondary work aspirations.

- Job training received in high school correlated positively with occupational attainment and income after graduation. Students who received high school job training were more likely to be employed and had a higher median income than students who had not.

Secondary Vocational Education Measures Up as a Positive Investment (Division of Occupational Education, Massachusetts Department of Education) 1976.

- A six year follow-up of 2,600 former vocational and nonvocational students in Massachusetts found a substantial earnings advantage (almost \$1,400 per year) for males who had attended a trade and industry program.
- This study found no labor market advantage for females from vocational programs. These results are just the reverse of those reported by Shea and Grasso, whose analyses of the National Longitudinal Surveys of Labor Market Experience found vocationally trained females earned significantly more than similar females without vocational preparation but no differences among males.

Review and Discussion for Planning the NIE Vocational Education Study (NIE sponsored) 1977.

- In contrast to results of the Massachusetts study, Grasso and Shea report on an analyses of the National Longitudinal Surveys of Labor Market Experience that found vocationally trained females earned significantly

more (approximately \$670 per year) than similar females with no vocational preparation.

- However, for males there were no labor market advantages associated with vocational preparation.

Varieties of Accomplishments After College: Perspectives on the Meaning of Academic Talent (Research and Development Division, The American College Testing Program) 1974.

- This report revealed that there is a substantial amount of research showing that, in general, success in school work as measured by test scores, high school grades, and college grades are unrelated to success in occupations or to other significant adult accomplishments.

The Early Youth Employment Experience (Paul Barton, National Manpower Institute, National Center Symposium on Occupational Adaptability) 1978.

- Limited data appear to show that employers in occupations with advancement possibilities do not as a matter of practice hire youth under the age of 20 or 21.

A Five-Year Follow-up of Students Enrolled in Postsecondary Vocational-Technical Transfer Programs (American College Testing Program) 1975.

- Many noncompleters also found jobs related to their aborted training. In addition, even those students not initially obtaining jobs related to their training often departed their first jobs and secured others

which were training-related. Thus, the authors concluded that vocational education is a motivator which encourages persistence in job hunting.

The Placement Effectiveness of Vocational Programs in Area Vocational Centers and Comprehensive High Schools (Illinois State University) 1976.

- A study of vocational education programs in nine schools in Ohio with a 93 percent return rate, found that 88 percent of the special needs graduates were employed in fields related to their high school programs.

Cost Effectiveness of School Supervised Work Experience Programs (USOE Sponsored) 1976

Vocational education cooperative students:

- found employment within a shorter period of time after leaving high school.
- changed jobs slightly less during the first two years after graduation.
- were viewed by employers as more dependable, better workers, more valuable, and easier to recruit than regular employees.
- were less likely to leave their jobs or to be absent from work than regular employees.
- Additionally, work study students were the most likely to think seriously about dropping out of school. However, one of their primary reasons for not dropping out (which differed significantly from other groups) was holding a job while in school.

Increasing Receptivity to National Goals

Between 1975-78, the National Center conducted three national assessments of needs. In these three studies, responses from a combined total of 1,130 vocational education administrators, teachers, teacher educators, and advisory council members at state and local levels reflected an increased commitment to program improvement, access, and equity in vocational education. The following needs were identified:

- Vocational education evaluation. The need to "evaluate vocational education programs more effectively" has increased in perceived priority from the middle 50 percent to the top 10 percent.
- Serving persons with special needs. The need to "improve and expand the ability of vocational education to serve persons with special needs" has increased in perceived priority from the top 40 percent to the top 30 percent.
- Vocational education planning. The need to "provide improved data for planning and evaluating vocational education" has increased in perceived priority from the middle 50 percent to the top 20 percent.
- Adult education. The need to "improve and expand vocational education to meet the needs of adults" has increased in perceived priority from the bottom 10 percent to the top 20 percent.

- Collaboration with the employment community. The need to "pursue collaboration with key segments of the employment and training community" has increased in perceived priority from the top 30 percent to the top 10 percent.

Preliminary evidence indicates states are increasingly directing their state program improvement funds toward such national priorities as the handicapped, bilingual populations, American Indians, the disadvantaged, and nontraditional populations.

PROGRAMS OF NATIONAL SIGNIFICANCE

Earlier investments and current projects "in the pipeline" promise to impact even more directly and to accelerate the positive trends noted earlier.

The chart on page 22 identifies the components funded under the 5 percent set aside for program improvement in areas of national significance, specifies congressional intent, and provides examples of activities.

The Commissioner's discretionary 5 percent set aside provides funding for four specific Programs of National Significance, namely: (1) National Center for Research in Vocational Education; (2) contracts and in some cases grants to institutions to pursue Programs of National Significance; (3) National Occupational Information Coordinating Committee; and (4) training and development programs for vocational

PROGRAMS OF NATIONAL SIGNIFICANCE*

TITLE	INTENT	EXAMPLES
1. National Center for Research in Vocational Education	● Impact on problems of national significance through research, development leadership, information systems, evaluation and information for policy and planning ● Contribute to development of a nationwide R&D system for vocational education	● Research and development on problems of national significance ● Equal access for women, minorities, and other special subpopulations ● National Academy for Vocational Education ● National dissemination and utilization system for vocational education ● More effective program evaluation in terms of meeting needs of special subpopulations ● National clearinghouse on vocational education
2. Contracts, and in some cases grants for activities authorized by sections 131, 132, 133, 134, 135 and 136, if such activities are deemed to be of national significance by the Commissioner	● Through competition, USOE focuses the nation's talent on solving problems of national significance	● Program initiatives between CETA prime sponsors and vocational education institutions in urban areas ● Strategies for coordinating language and vocational training in bilingual vocational education programs ● Development of a model for use by states in developing and updating their five year and annual state plans for vocational education ● Funding of six curriculum coordination centers to disseminate curriculum materials for new and changing occupational fields and for persons with special needs
3. National Occupational Information Coordinating Committee	● Develop and implement an occupational information system to meet the common occupational information needs of vocational education programs and employment and training programs ● Improve joint funding coordination and communication between and among administrators and planners of programs in vocational education, CETA, employment security agency personnel, research personnel, and employment and training planning and administering agencies	● Data on occupational demand and supply based on uniform definitions ● Joint planning efforts between local, state and national leaders in CETA, and vocational education programs
4. Training and development programs for vocational education personnel	● Provide opportunities for experienced vocational educators to spend full time in advanced study in vocational education ● Opportunities for certified teachers who have been trained to teach in other fields to become vocational educators, if those teachers have skills and experience in vocational fields for which they can be trained to be vocational educators ● Opportunities for persons in industry who have skills and experience in critical need vocational fields, but do not necessarily have baccalaureate degrees, to become vocational educators	● Graduate program opportunities for up to three years ● Elementary and secondary general subject educators retrained as vocational educators ● Master craftsman certified as vocational educators

*Public Law 94-142, Education Amendments of 1978, (Title I, Part B, Subpart 2, Section 171-172, pages 2201-2205), October 12, 1978.

education personnel. It is my intent to illustrate the vital role and impact each of these programs is having on making vocational education responsive to societal needs..

National Center for Research in Vocational Education

Congress mandated that a National Center be established to address problems of national significance through six inter-dependent functions: (1) applied research and development, (2) leadership development, (3) information for planning and policy development, (4) evaluation services, (5) clearinghouse, (6) dissemination and utilization. It should be noted that the House Report on H.R. 12835 cites the establishment of the National Center as one of the two most significant improvements in Programs of National Significance in the Education Amendments of 1976.

During year one, the National Center worked to increase the responsiveness of vocational education to the needs of individuals and society and to develop a nationwide research and development system for vocational education. Four major themes were identified which cross-cut the functions. They are: (1) comprehensive planning, (2) responsiveness to special needs of subpopulations, (3) sex fairness, and (4) effective evaluation.

In addition to carrying out a number of projects resulting in research, development and evaluation reports, the National Center is increasingly recognized as a locus of information

and consultation. For example, during calendar year 1978, 1,528 visitors from fifty states came to the National Center to consult with staff, learn about National Center products and activities, and utilize information resources. Seventy-nine foreign visitors from forty-one countries also sought out the National Center.

In addition to on-site visitors, there were 9,216 information requests which came by way of letter and telephone from a variety of institutional settings and individuals with varying roles and responsibilities. These individuals sought information about national program priorities, available research and development products, exemplary activities, potential consultants and similar information.

In carrying out first year activities, the National Center worked extensively with diverse organizational groups across the United States; field sites were established in forty-six locations in thirty-two different states and directly involved over 500 state and local leaders.

Applied R & D. The National Center conducted applied research and development efforts in the areas of (1) comprehensive planning, (2) special needs, (3) increasing sex fairness, (4) improved evaluation, (5) benefits to Native American populations, (6) awarding academic credit for work experience, and (7) urban CETA-based guidance services.

- Comprehensive Planning

One study described information useful for developing state plans together with alternative ways of analyzing and displaying data. Personnel from four field sites helped develop materials. Individuals from four other states reviewed these materials for their usefulness. A second study involving vocational and manpower planners in ten states identified ninety-four competencies essential for persons involved in developing state plans. Content and format specifications were produced for fifteen individualized performance-based training packages.

- Special Needs Subpopulations

One study examined 1,100 documents that resulted in a descriptive demographic document that identifies needs and characteristics of special needs students across seven subpopulations. A second study identified common needs of the seven subpopulations and identified strategies to increase the benefits of vocational education for subpopulations. Ten common needs were identified for all special needs populations. Seven unique needs were also identified. Intervention strategies were reported for each of the common and unique needs. A third study identified exemplary programs for special needs students. Thirty-five states nominated 137

exemplary vocational education programs for special needs students. Sixteen programs were selected and visited. Detailed descriptions of these programs were formulated. Abstracts were written for the 121 remaining exemplary programs.

- Increasing Sex Fairness

In one study, over 1,800 references were identified to document factors that influence students to select vocational education programs which traditionally enroll students of the opposite sex. Instruments were pilot tested for use in a national survey of 1,500 ninth and tenth graders to validate literature-based factors. A second study identified certification requirements in each of the fifty states for vocational administrators. In addition, the studies identify the pool of women eligible for certification as vocational administrators. The data from eleven states already collected showed that only 105 women were currently employed as vocational administrators.

- Experiential Learning

This study examined policies of fifty states for awarding academic credit for work experience. Ten selected models for granting academic credit for experiential learning are being identified and their applicability to strengthen linkages between CETA prime sponsors and vocational education are being reported.

- Extending Vocational Education to Native American Populations

In this study, the National Center is working with six native American tribes and six state divisions of vocational education to develop and validate procedures and methods for improving vocational education services which can be used by tribes in twenty-one states.

- Vocational Education Outcomes

This study reported on the conceptual and practical issues involved in improving vocational education through evaluation of vocational education outcomes. Currently, 228 vocational outcomes have been identified and are being assessed and synthesized to provide a useful tool for vocational education evaluators.

- Urban CETA-based Guidance Services

A monograph on the impact of counseling and guidance services for unemployed CETA youth and adults has been developed. Data were collected from CETA programs in twenty major cities. Chicago, Boston, and Los Angeles were selected for in-depth study. Seventy-five persons were interviewed across the three sites. A large number of exemplary services were identified and characterized.

Leadership Development. The Advanced Study Center, a subunit of the National Center for Research in Vocational Education, provides opportunities for advanced study in vocational education and related disciplines. Individuals (Fellows) are selected through national competition and are given fulltime nine-month appointments for resident study at the Advanced Study Center.

Individual Fellows pursue lines of inquiry relating to Programs of National Significance such as the aging, bilingual programs, providing vocational services to the disadvantaged and the handicapped, and assuring sex fairness in vocational education.

As a result of the activities of the Fellows at the National Center, and their interaction with members of the National Faculty and leaders in government, industry and other key areas, the intellectual capital in vocational education is expanded, policy alternatives are identified and examined, and new areas of inquiry illuminated.

This past year, fourteen Fellows have been in residence; they come from a variety of institutional settings and disciplines. For example, six were from universities, three from local education agencies, two from community colleges, two from state departments of vocational education, and one from a governor's Office of Manpower and Human Development. Two are former Fulbright scholars.

The Advanced Study Center fulfills a long standing need to foster advanced scholarship and leadership development in a broader context. Over time, the impact of the 'Fellows' leadership and publications will contribute materially to program options, policy development and more responsive programs.

The National Academy for Vocational Education, also a subunit of the National Center, is a mechanism for capacitating leaders in vocational education to fulfill increased responsibilities and to focus efforts on problems of national significance. It fulfills its functions through an Institute Program and a fulltime Inresidence Program. During this past organizational year, the Academy has conducted twelve workshops covering a broad range of issues and concerns at six different sites across the country. The 454 participants came from all fifty states and represented both state and local level agencies, and postsecondary and various higher educational institutions. Native Americans, blacks, Hispanics, Asians, and specialists for the handicapped, disadvantaged and program equity were among the participants.

The Institute Program has precipitated:

- implementation of competency based staff development programs in six Ohio postsecondary institutions
- improvement of the effectiveness of a southeastern state education agency management system for the delivery of all vocational education services

- the adoption of a short-term experience-based program to improve state agency-native American relations (e.g., Washington, Montana, Oklahoma, Minnesota, South Dakota).

For the twenty-seven participants, the average duration of the Inresidence Program was 21-3/4 days. During this residency, participants enhanced their professional skills through leadership activities and/or developed materials for use in their respective states. Seventeen states and one foreign country sponsored these twenty-seven individuals. Twenty-two percent were females and 44 percent represented minority and special populations. Of these twenty-seven Inresidents:

- seven were from local education agencies
- ten were from state education agencies
- eight were from postsecondary institutions
- two were from the federal government

The success of the Inresidence Program is reflected in the widespread acceptance and use of programs and products developed by Inresidents. Examples of such use follow:

- a state board for vocational education's acceptance of a policy handbook for the administration of vocational education special needs programs

- a state board for vocational education's adoption of a statewide evaluation approach to assessing the achievement of vocational education special needs students.
- an International Union Training Fund adoption of an evaluation scheme to assess the effectiveness of their national apprenticeship instructor training program.

In terms of cost effectiveness, the average participant cost to the federal government for activities conducted by the Academy in 1978 was only \$579.90. This compares most favorably with the federal participant expenditures of \$1,063.72 incurred during the previous year. The National Center's Academy reduced the participant cost to the federal government by \$438.82.

During the coming year, twenty-five national conferences, workshops or seminars will be conducted in fifteen states with an estimated 1,200 participants. The activities will focus on problems of national significance such as evaluation, sex fairness, and improving vocational education for handicapped, disadvantaged, and minorities.

Information for Planning and Policy Development. The purpose of this function, as stated in P.L. 94-482, is to "develop and provide information to facilitate planning and policy development in vocational education." The Office of Education, in establishing the National Center, translated

this general charge into specifications for five one-year studies to be conducted using existing information. So, data and information from existing sources were organized, analyzed, and interpreted to provide a series of reports.

- A report on the status of vocational education during the 1975-76 school year analyzed existing information to answer such basic questions about vocational education as: Who is served? How well are they served? What resources are used? Who helps? and What kinds of data are available to support planning and evaluation? Development of a comprehensive, multi-year, data base and methods for its use were started. In 1979, further development will permit use of this base in preparation of the status report for the 1976-77 school year, in beginning analysis of data for 1977-78, and in answering unanticipated questions about vocational education.
- A second report provided information to aid in the selection of applied R & D priorities. Fifteen major national needs in vocational education were identified. Five of these needs (transition from school to work, curriculum content and instruction, coordination, planning, data and evaluation) were selected as especially important and amenable to R & D. R & D approaches were described for each of these means.

During 1979, new R & D efforts will be monitored to determine if they address identified needs and whether changes have occurred in the nature of the most pressing needs. Alternative futures also will be analyzed for R & D implications.

- Two reports in 1978 provided information to assist in selecting national priorities: (a) for curriculum development in specific occupational areas that are changing or new, and (b) for conversion of Department of Defense curricula to civilian use. Three major occupational areas and ten specific occupations that are new, changing, and in need of curriculum development were identified, analyzed, and described. Ten military courses, selected systematically from more than 100 candidates, subjected to rigorous analysis, and found to warrant consideration for conversion to civilian use were described. Next year, collaborating with the Clearinghouse function, additional occupational areas and military curricula will be analyzed using methods perfected during 1978.
- A fifth 1978 report provided estimates for 1979 and 1981 by state and for the nation of the number of teachers needed in each vocational teaching area. Next year, the estimating model, which uses data on enrollments, student/teacher ratios, and teaching

personnel, will be evaluated by comparing projections with actual audiences and with results from other formulations. A revised model will provide projections for 1980 through 1982.

Evaluation Services. In the evaluation function, the National Center is working with educational and other public agencies to develop methods for evaluating programs.

- The National Center developed two practitioner handbooks of guidelines for conducting follow-up studies of vocational education. One focused on regular populations, and the other on special populations. The handbooks are designed to help state and local education agencies comply with legislated mandates to provide statistically valid follow-up data and to assist vocational educators in obtaining data for program planning, evaluation and improvement.
- The National Center conducted a study to provide information for increasing the quality of vocational education evaluation reports. The procedures focused on reviewing evaluation materials from nine states and interviews with the persons responsible for producing these materials. The project's final report, "Review of Vocational Education Evaluation Reports" is designed to aid state and local education agencies in planning and designing evaluations and evaluation

reports. Additionally, the report traces the development and application of a guide for use in reviewing evaluation reports.

- The National Center assisted four states--Alabama, California, Colorado, and Maine--in evaluation efforts. Primary emphasis was on conducting follow-up studies and evaluating services for special populations. The resulting case studies include: (1) the background of the state's evaluation activities, (2) the evaluation problems being addressed, and (3) the advantages and disadvantages of possible solutions to these problems. The report is intended to help other states to improve their evaluation procedures and to use evaluation results in program improvements.
- A report produced by the Education Commission of the States, through a subcontract with the National Center, describes the roles and responsibilities of state and federal agencies in evaluating vocational education that were mandated by the Education Amendments of 1976 (P.L. 94-482). The central purpose of the report is to analyze: (1) the legislative basis of the evaluation, (2) the assumptions and expectations for the effort, (3) the evaluation approaches and activities being undertaken, and (4) the problems in conducting these evaluations. A statement by seventeen practitioners and researchers who are concerned with

evaluation is also included in this report as an epilogue. The report expresses their concerns and their assessment of actions needed to assure the most effective use of evaluative information in program improvement.

The Clearinghouse Function. The purpose of the National Center Clearinghouse is to maintain descriptive data on research, exemplary programs and curriculum development and to disseminate this information to the USOE, state administrators and program improvement units, postsecondary groups, and R & D personnel.

The goal of these services is to reduce duplication of states' efforts by acting as a clearinghouse on state investments in program improvement and as a catalyst on adoption of program innovations, thereby increasing the utilization and hence cost effectiveness of R & D.

A computerized tracking system to maintain the status of R & D projects along with information on costs, timelines, and products will become operational this year. All fifty-six departments of education are now routinely submitting abstracts of state funded program improvement activities to the National Center Clearinghouse. In addition, procedures for identifying relevant military curriculum materials and facilitating their entry into other data bases such as: Education Resources Information Clearinghouse (ERIC), National

Technical Information System (NTIS), and National Audio Visual Center (NAVC) are being developed. We also are acquiring appropriate military curricula to be used by vocational education instructional materials laboratories and by USOE for contracted conversions.

Last year, five issues and an annual index of Resources in Vocational Education were developed and delivered. Resources in Vocational Education is a nationally distributed bimonthly abstract journal which announces the availability of vocational education reports and other documents representing research, exemplary programs, curriculum development, and other projects conducted throughout the nation. Approximately 200 documents are announced in each issue. This publication is used by vocational education administrators, teachers, counselors, teacher educators, researchers, and students.

In addition, 1,285 annotated bibliographies covering all 1970 through 1977 federally administered projects under Part C, Part D, Part I, and Part J have been completed. Arrangements have been made with all fifty-six departments of education to provide them information on their respective Parts C and D efforts.

Along with the continuation of Resources in Vocational Education, next year an annual report on current federal and state administered projects will be delivered to the Coordinating Committee for Research in Vocational Education

(Bureau of Occupational and Adult Education/Division of Research and Demonstration, National Institute of Education, Fund for Improvement of Postsecondary Education, and Office of Career Education).

Dissemination and Utilization. A nationwide dissemination and utilization system has been established and is under further development. It is aimed at vocational education program improvement through facilitating the choice and implementation of the best available research and development products and information in the nation. The combined effects of the closely linked dissemination and utilization tasks are providing new opportunities for program improvement through a coordinated reliable system.

First year efforts include:

- Six exemplary products were selected from a nationwide pool of over 3,500 products and prepared for intensive nationwide implementation. They focused on occupational counseling and guidance for the physically disabled, mainstreaming the handicapped, guidelines for sex fair curricula, eliminating traditional sex roles, cost effective postsecondary vocational programs, and guidelines for teachers of adult occupational education. In January, these six products were introduced to over forty state vocational education directors for utilization in their states.

- Special instructional resource packages were compiled and disseminated for five new and developing occupational areas of biomedical technology, entrepreneurship, energy conservation in construction, occupational survival skills, and business and office competencies. Several states have reported plans to install some of these products statewide and other states are requesting permission to reproduce these products for statewide distribution.
- Sixteen synthesis papers addressing such national priorities as evaluation, CETA, planning, sex equity, and special populations were commissioned and completed.
- Training and liaison activities were conducted with state research coordinating units, curriculum coordinating centers, and local education centers.
- Concurrent to all these efforts was the decision of a national study to assess the distribution, use, and impact of selected research and development products on the administrator, teacher and student levels.

In essence, the National Center is serving a critical national role in making vocational education more responsive as a result of performing its six assigned functions.

Contracts by the Commissioner of Education
on Problems of National Significance

Funds reserved for the Commissioner in this 5 percent set aside are used to sponsor a national competition to focus the nation's talent on problems of national significance. This provides one of the most effective means for the federal government to fulfill its leadership role. A variety of strategies such as research, exemplary and innovative programs, curriculum development, vocational guidance and counseling, personnel training, and sex fairness programs assure that quality practices are identified, developed and used in a variety of operational settings. State program improvement activities frequently build upon this federal investment. These national projects serve as a catalyst for state program improvement funds.

Six regional curriculum coordination centers are supported with funds from this section. They form a national network for dissemination, curriculum management and liaison with the fifty-seven states and territories. During 1978, the six centers disseminated over 132,000 copies of materials to the vocational education community. They conducted in-service workshops and training on such topics as sex equity, adapting materials for the handicapped, new and emerging occupations and using newly developed materials. A total of 285 workshops were conducted with 10,000 participants from both public and private institutions and business/labor and industry.

Earlier activities funded out of this category include the curriculum designed to upgrade mine electricians in the use of solid state electrical controls. This curriculum is being used by many states and in some instances has been adopted for statewide use.

School districts in ten states are developing comprehensive career guidance plans as a result of using the programmatic approach to career guidance excellence materials developed through these funds. Millions of children viewed the sixteen career cluster films that were shown in the CBS Captain Kangaroo program. Metric workshops for 450 educational leaders were conducted in ten USOE regions using fifty-five modules developed with funds from this general category. One state has already conducted additional statewide workshops to implement these materials.

Currently funded projects under this subcategory include such efforts as developing effective mechanisms to facilitate coordination between CETA/YEDPA programs and vocational education, increasing access of program options and equity for all subpopulations, improving planning for the urban and rural depressed areas, and modifying vocational education curriculum for the handicapped. In addition, new curricula are being developed in the areas of nuclear materials processing technicians, nuclear instrumentation, and radiation protection.

Only about \$2 million will be available for supporting the Commissioners contracts for Programs of National Significance from the 1980 appropriations, if the administration's budget request stands. Following are Bureau of Occupational and Adult Education priority areas: (1) the CETA-Vocational Education connection, (2) improved planning for depressed areas, and (3) equity and equality. These projects will strengthen the capacity of vocational education to relate to the world of work. For example, vocational education administrators' capabilities will be strengthened, thereby enabling them to more effectively utilize CETA funds. Planning capabilities will be strengthened to the point that meaningful planning will occur in urban areas, and these same decision makers will have the professional tools and capability to insure educational equity and equality of opportunity for all populations who need and desire vocational education.

National Occupational Information Coordinating Committee
and State Occupational Information Coordinating Committees

The National and State Occupational Information Coordinating Committees (NOICC/SOICC) were authorized under the Education Amendments of 1976 (P.L. 94-482, Sec. 202) and the Comprehensive Employment and Training Act Amendments of 1978 (P. L. 95-524, Sec. 315). These inter-agency committees were established to improve coordination and communication among the numerous agencies that produce and use occupational data in association

with the development and utilization of the nation's human resources. NOICC and the SOICCs were mandated to develop and implement an occupational information system to meet the common information needs of vocational education programs, and employment and training programs. These legislative charges are a result of long standing problems centering on the lack of good labor market data necessary to the rational planning decisions for training programs and individual career choices. As a consequence of inadequate planning, the nation has been plagued by significant structural imbalances in the labor market, which, in addition to causing direct unemployment problems, lead to inflationary pressures and lower productivity.

Of course, a great amount of data on occupations and training is already being collected, but the usefulness of this data is seriously limited due to the absence of uniform or comparable occupational and training program classification systems, poor timing, and inconsistent estimating procedures. The essence of NOICC is not to encourage additional data collection; instead it is to get the most mileage out of existing data.

Toward this end, NOICC has made several important accomplishments during its first "organizational" year. Principal among these, NOICC provided assistance to the states in forming their committees, and now nearly all SOICCs are organized with fulltime staff on board. In August 1970,

NOICC convened the first national SOICC Directors Conference, where training was provided by NOICC staff and experts from the Departments of Labor and Education. NOICC has prepared training materials to be disseminated at the second national SOICC Directors Conference in May 1979. These materials are designed to assist the SOICCs in implementing the occupational information system, and include information on a new computerized cross coding system that links several commonly used classification schemes, making existing data much more useful. To improve the usefulness of future data, NOICC is coordinating federal agencies to make adjustments and refinements in their reporting systems. NOICC has also initiated a substantial research agenda, which includes studies to evaluate alternate occupational information delivery systems, to explore options for future Census data, and to measure the effects of providing youngsters with increased and improved occupational information.

The SOICCs, too, have been very productive and are rapidly becoming the center of related activities. For instance, many SOICCs have received or proposed grants from state agencies to develop and implement computerized Career Information Systems, which will help unemployed youth and others in the career decision-making process. The Committees have been meeting to design and implement improvements in the flow of information. In some cases, attendance at SOICC meetings represented the first time members of different agencies

actually sat down to discuss their common planning and data problems--there is a great deal of important communication taking place within the SOICCs. SOICCs are beginning to implement their occupational information systems and supply the information to data users, such as local planners and Career Information Systems.

In doing this, the SOICCs are assembling state-level data in areas where information is frequently inadequate or non-existent. For example, data on labor supply from proprietary schools and employer-sponsored training are being assembled by several SOICCs, using reports filed on approved programs of the Veterans Administrations. In other cases, reporting systems of state licensing boards are being adjusted to provide the desired information.

The SOICCs have begun, or will soon begin, to conduct training seminars showing data users the correct procedures to follow regarding proper application of the data in planning decisions. Many SOICCs have undertaken research projects to enhance the usefulness of occupational information in their states and others as well. Several SOICC directors have assisted NOICC by participating in resource groups to help design the occupational information system, plan conferences, and develop communication procedures.

With respect to this last item, the value of communication has been stressed and achieved by NOICC and the SOICCs from the outset. NOICC issued timely administrative and information

memoranda and began a newsletter in January 1979. The SOICCs submit regular progress reports, publish newsletters and bulletins, and otherwise share important developments and findings as they become available. Naturally, the SOICC Directors Conferences serve as useful forums where ideas are exchanged.

It is crucial that NOICC be funded at its full authorized level. The enabling legislation called for an equal annual investment in NOICC from the Employment and Training Administration and USOE of \$3-5 million each. Thus, the total authorized budget for NOICC ranges from \$6-10 million. This huge gap in potential funding levels makes implementing a consistent, programmatic, and planned national effort difficult. In addition to supporting its own activities, NOICC must fund SOICCs in the fifty states and the territories. Although some SOICCs receive state-level support, it is highly desirable to maintain the NOICC-SOICC linkage at the maximum level in order to insure a coordinated effort for better national data. Having the best curricula, the most skillful teachers, the finest facilities, is only of limited value if these are not utilized to develop human resources in balance with labor market requirements. That is why it is so important to provide full support to NOICC. The best possible occupational information system must be implemented and involved in policy decisions, program planning, and career choice.

Training and Development Programs
For Vocational Education Personnel

The federal interest is exceptionally well served in supporting training and development programs for vocational education leadership personnel. Such investments expand the national pool of talent and attract, prepare and retain some of the best minds in the nation to provide leadership in a variety of program settings. This effort contributes substantially to needed institutional capacity in higher education, stimulates inquiry and positively influences state sponsored leadership development programs.

Vocational Education Leadership Development Programs. Individual awards are provided through the vocational education leadership development programs to prepare leaders for key roles. Selected through national competition, participants are able to spend up to three years in graduate or fulltime post graduate study to acquire the knowledge and necessary leadership skills. Last year a national panel of experts selected 155 awardees from a national talent pool of 1,200 applicants. Alternates with comparable qualifications and potential were identified.

Past experience has shown that after completing a leadership development program, 83 percent of the awardees obtain their first position as administrators, assistant administrators, directors, supervisors, coordinators, consultants, professors, specialists and chairpersons in vocational

education. Furthermore, 85 percent of the awardees' present positions are in leadership categories. Participants have also assumed leadership roles in the U. S. Office of Education, as State Directors of Vocational Education, and as Presidents of Community Colleges.

In addition to individual support, the award includes an institutional allowance which contributes substantially to the eighteen universities' leadership development capacity and positively influences participants in other programs and offerings.

Institutional capacity for providing such comprehensive leadership development programs is not keeping pace. A recent nationwide analysis of such institutional capacity indicated that only 20 to 24 universities were qualified to deliver appropriate studies and parallel experiences. Hence, one of the most urgent needs is to develop further institutional capacity for vocational education leadership development.

Taking into account the availability of individuals who are completing doctoral and other post-masters programs and the number of new certified staff required for teaching and other support roles in vocational education, it is obvious that we will soon be facing a shortage of advanced leadership personnel. In addition to the concerns for initial preparation of leadership personnel, there is an urgent demand for advanced leadership personnel to design and implement appropriate in-service and personnel development programs.

If the 5 percent authorized for programs of national significance were appropriated, the U. S. Office of Education could increase the number of awards from 155 to 245 and could increase the participating institutions to twenty-four, thereby improving the geographical distribution but more importantly, providing additional institutional capacity.

Vocational Education Teacher Certification Fellowship Program. This fellowship program provides opportunities for certified unemployed teachers, who have been trained to teach in other fields, to become vocational teachers. Such individuals must have skills and experience in vocational fields where there is a shortage and for which they can be trained to be vocational educators. The program also provides opportunities for persons in business, industry and labor to become vocational teachers. This group includes persons who have skills and experience in vocational fields for which there is a need for teachers but who do not necessarily have baccalaureate degrees.

USOE uses a national panel of experts to select persons to receive fellowships who have a high potential for success. Although this is the program's first year, there are strong indications that fellowship recipients, when certified in vocational fields where there are known shortages, will have many opportunities for placement.

In a recent report from the National Center for Research in Vocational Education, it was estimated that 158,872 new teachers would be needed for fiscal years 1977 through 1981. The annual need for new teachers was 28,400 for 1977 through 1979 and increased to 36,800 annually for fiscal years 1980 and 1981. In 1978, states reported 19,200 certificates and bachelor's degrees were issued or granted, assuming the same number were issued annually through 1981, there will be a deficit of 9,200 teachers for fiscal year 1979 and 17,600 for both 1980 and 1981 fiscal years. This need results from increases in enrollment projected by states and assumes a consistent turnover rate of teachers of 10 percent annually. The projected deficit is extensive and must be met if vocational education is to fulfill its mission.

If appropriations are at authorized levels, the number of fellowships for this area would be increased from 100 to 400. This number of awards is needed to assure some support to most states. Dialogue has already been initiated to review certification requirements. This would be enhanced by full participation of most states. It is also expected that the number of applicants would increase to 4,000 thus assuring a more vigorous screening of applicants.

NEEDS

While it is tempting to talk about exotic alternatives and the potential for dramatic breakthrough, I am inclined to believe that there are no easy victories. Hence, it is essential to focus limited resources for program improvement on major interventions that promise to strengthen and enhance America's mainstream system for career-oriented vocational training. In discussing unmet needs, the major problem is not to generate a list, but rather to reduce such a list to manageable proportions and to give some sense of priority. We should also note that most of these are not new items. Rather, they represent persistent problems which need to be continually addressed through Programs of National Significance.

In most of the major problem areas, vocational education is only a part of the solution, that is to say, major problems of youth unemployment, underemployment, productivity, depressed areas, functional illiteracy, and so on, result from multiple causation. The most urgent need is to be able to make data based decisions about vocational education. Secondly, is procedures and mechanisms for focusing and coordinating various legislative interventions on these problems. Since current federal appropriations for vocational education average about \$33 per individual served; to me a self-evident truth is that more federal dollars are needed to reassert the

federal equity role in this creative partnership and to accelerate the response to national priorities.

I have organized suggested priorities in the following manner: (1) Immediate needs, (2) Strategies for strengthening institutional capacity, and (3) Long-range priorities.

Immediate Needs

Improved coordination. We need to evolve creative procedures and structures for focusing and deploying funding from multiple legislative authorities on critical problem areas. Perhaps there is a need for new public corporations or quasi-governmental structures that draw resources and policy board members from diverse funding authorities on critical problem areas. Participants might include organizations and institutions such as vocational education, organized labor, business, local CETA prime sponsors, small business administration, the employment service, and economic development administration.

Financing vocational education. Studies on the problems of financing vocational education demand attention. Are there ways that incentives can be built into the federal legislative structure to stimulate state and local investments and reward positive implementation? What is an equitable distribution between the federal, state, and local resources? How do we more effectively target federal dollars through state foundation program formulas, and state legislative bodies who are beginning to "reappropriate" federal monies?

Self-employment. We must focus our efforts on optimizing vocational education's capacity to expand the number of completely who become self-employed. This effort could be enhanced through a developmental program for secondary, post-secondary, and adult levels which rigorously assesses some of the promising exemplary programs. Such an effort could provide needed development, evaluation, and demonstration to accelerate self-employment as an outcome of vocational education.

Cost-effectiveness. A number of investigations are needed to design and validate more cost effective procedures in vocational education and to assure more optimal utilization of existing resources, equipment, facilities, and staff. Shared data, joint planning, evaluation, and other similar efforts should be undertaken with other agencies.

Technological transfer. If America is to improve its international balance of trade, improve productivity, and remain in the forefront of technological development, vocational education at secondary, postsecondary, and adult levels must be more attuned to growing and developing occupational areas and provide improved procedures to rapidly assimilate and install new technology in career-oriented vocational training programs.

Preventing youth unemployment and adult underemployment.

In addition to solving current youth unemployment, we need to place more attention and resources on preventing youth unemployment. Such interventions might take the form of improved career planning, better occupational information, more extensive community involvement and interaction, part-time employment, flexible programming, remedial and compensatory educational services, and improved placement and follow-through programs.

The consequences of underemployment should be more adequately investigated. Through promotability programs, we could open up the career ladder to provide more entry level positions for younger members of the population.

Strategies for Strengthening Vocational
Education's Institutional Capacity

There is a continuing need for Programs of National Significance to assist in strengthening vocational education's institutional capacity to respond to acute social/economic, and education demands, and to serve regular program needs.

Personnel development. In addition to meeting the demand for new and replacement personnel at various levels, personnel development programs (preservice, inservice, and graduate) must confront the implications of technological advancement in new and growing occupations, implement new educational technology, deal with the consequences of mainstreaming,

contribute to individual educational planning and progress, and modify teaching strategies for differing age groups. Further, specialized skills need to be developed and honed to work with hard-to-reach students and to assure nondiscriminatory practices with respect to minorities and other stereotyped populations.

Comprehensive planning. In order to be responsive, vocational education planning must include the identification of major barriers to, and facilitate mechanisms for, achieving articulation. Techniques need to be developed which will enable vocational education systems to assess and improve upon their current capabilities for promoting inter-agency planning and coordination. Availability of comprehensive data bases accompanied by training programs designed to prepare and upgrade planners is a compelling need, especially with the advent of the Vocational Education Data System, the National Occupational Information Coordinating Committee, and the State Occupational Information Coordinating Committees.

Improving access and equity through vocational education. We need to strengthen and accelerate the use of strategies and techniques for providing access and equity through broad based approaches across special groups or specifically targeted groups such as: local administrators, teachers, counselors, parents, spouses, employees, and others. Such activities might include: (1) raising awareness, (2) assessing needs

of special groups, (3) identifying and recruiting students and staff, and (4) assuring equity in such products as recruitment materials, textbooks, and curricula. In addition, we need to research and validate such assessment procedures as aptitude tests, interest inventories, selection techniques, and achievement instruments for various special populations in diverse settings.

Career planning and support services. We need to more effectively deliver current occupational information to: (1) facilitate career planning; (2) increase student interaction with a diversity of adult role models in community based settings; (3) enhance curriculum based career guidance; and (4) provide more effective placement follow-up and follow-through systems to facilitate transition from school to work and job advancement. It would be desirable to study the potential of intermediate educational service agencies to facilitate rural youth and adults in making career decisions.

In addition, we should study the impact of the 20 percent set aside legislation for vocational guidance and counseling (Section 134 Title II of the Educational Amendments of 1976) and identify barriers limiting the full implementation of these amendments.

Evaluation. In addition to more rigorous evaluation efforts, there is a need to search for cost effectiveness means of evaluation. Additionally, evaluation results need

to be presented in a manner that is more meaningful to policy makers and citizens. Evaluation results must be given greater weight in determining program offerings, continuations, discontinuations, and redirections.

Postsecondary and adult. Perhaps no more critical need exists than focusing additional resources on program development, improvement, and evaluation at postsecondary and adult levels. This need must be met if we are to facilitate the adult learners continuing growth and to contribute to their promotability and progress on the career ladder.

Curriculum development. In addition to strengthening our curriculum technology, it is imperative that we encourage regional and national development of curricula in such new technologies as energy, health care, occupational safety, and environmental protection.

Dissemination. The requirement for systematic and comprehensive dissemination of research, development, training and evaluation products to targeted groups demands attention. For dissemination to be effective, quality products must be accurately identified in a timely fashion, potential users must be informed to facilitate appropriate choices, targeted strategies must be devised, and technical assistance to support implementation must be made available.

Long-range Priorities

In addition to the foregoing critical and immediate topics, there are additional longer term, yet equally imperative needs which cry out for additional investigation, development, and evaluation. However, with limited funds and the mandate to demonstrate use in substantial number of classrooms or other learning situations within five years these will not be adequately addressed under current authorizations for Programs of National Significance. Some of these issues relate to the changing role of work in individual life styles; changing work attitudes of Americans; humanizing the workplace; flexible work schedules; career transitions and displacements; retirements; and changing relationships between the home, family, and work settings. Studies of potential disincentives that may exist in other federal policy arenas such as minimum wage, welfare, and unemployment compensation should be undertaken.

We need to address vocational education's role in extending and expanding continuing opportunities for the aging. We need a more aggressive and extensive program of preparing researchers and evaluators. Continued attention should be given to comparative education and human resource policies. Finally, we must participate in the search for coherence and optimal relationships between vocational education and other components of human resource development.

CONCLUSIONS

My experiences and understanding of the current scene lead me to the following conclusions:

- Programs of National Significance are appropriate federal investments since they influence the character and quality of the other federal programs and act as a catalyst to state and local program improvement activities.
- There are pervasive and continuing unmet needs which will only be addressed through federal support for Programs of National Significance.
- There is an evolving nationwide program improvement capacity which links together critical instrumentalities at the state and federal level to provide more focused improvement; a more effective and efficient effort which assures wider utilization of the products of research, development, training, evaluation and planning information.
- Programs of National Significance are cost effective. Research, development, training, evaluation and planning services have addressed pervasive national problems by generating products which are useful and are being used in a wide number of states. This results in considerable savings and eliminates duplicate costs.

- By any standard, the federal investment in Programs of National Significance for vocational education suffers by comparison with such areas as: agriculture, medicine, business and industry.
- As a result of program improvement investments, nationwide there are many exemplary efforts which need to be carefully evaluated in terms of their effectiveness and potential utility in broader settings and aggressively disseminated to appropriate groups.
- Vocational education is providing expanded opportunities for career-oriented vocational training to increased numbers and groups.
- The field is responsive to national priorities, as evidenced through enrollments and placement. It is increasingly addressing the needs of subpopulations and nontraditional enrollments. These trends have been enhanced by programs of national significance. In addition to the impact of completed projects, there are a number of activities underway which promise to further accelerate these positive trends.
- There is vision, commitment, and evolving capacity to aggressively move toward addressing some of the durable and pervasive problems associated with youth unemployment, underemployment, and mid-career changes.
- Increased emphasis is being placed on improving the relevancy and quality of evaluation.

- Linkages are emerging between vocational education, CETA, and the business/industry/labor communities resulting in improved planning and delivery.
- Vocational education is responsive to new and growing occupations and needs.
- Vocational education is becoming increasingly effective in supporting economic development in states and communities.
- Despite the severe effects of constrained state and local budgets, the higher cost of quality vocational education, and the continuing erosion of resources through inflation there is an improved institutional capacity to deliver responsive career oriented vocational training. Federal investments in programs of national significance contribute to and strengthen this residual capacity.
- Best available data indicate that demands for vocational education will continue at all levels with the major growth being in postsecondary and adult programs. There is a pressing need however, to expand options and alternatives for various subpopulations at the secondary level.

CONSEQUENCES OF REDUCED APPROPRIATION
OF PROGRAMS OF NATIONAL SIGNIFICANCE

In my view, there is no more critical need in the federal vocational education appropriations than restoring the full 5 percent set aside for Programs of National Significance. All of these programs are essential to reestablishing the integrity of the amendments to the federal leadership role. Programs of National Significance play a pivotal role in influencing the character and quality of federal, state, and local investments.

As the Committee well understands, during fiscal year 1978, the full 5 percent set aside yielded \$28,203 million. Unfortunately, FY 79 appropriation levels were reduced to \$10 million. Operating for even one year at the reduced appropriation level with careful management might permit the "survival" of congressionally mandated efforts and would limit other significant interventions. A second year of appropriations at this level would be disastrous to a fragile, evolving, and increasingly effective program improvement capacity.

If Congressional intent for the 5 percent set aside for this subpart is not honored, it will eliminate a number of significant activities and institutional capacities. Further suboptimization will take place regarding the work of newly established national instrumentalities in Programs of National

Significance such as the National Center, National Occupational Information Coordinating Committee/State Occupational Information Coordinating Committees, and personnel development programs. It will introduce discontinuities into ongoing research and development efforts and disrupt evolving systemic linkages, which strengthen the tie between state and federally sponsored program improvement capacities. It will seriously limit the Commissioner's ability to directly invest in those problems of national significance that are most critical.

The ability to build on and utilize the work of other states will also be greatly restricted. Increasingly, there are products from research, development training, evaluation, and planning efforts funded at both the national and state levels which should have greater utilization through national dissemination strategies. Unfortunately, funding for dissemination competes for the same dollars needed for current high priority research, development, and training efforts focused on problems of national significance.

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**STATEMENT OF DR. ROBERT TAYLOR, EXECUTIVE DIRECTOR,
NATIONAL CENTER FOR RESEARCH IN VOCATIONAL
EDUCATION, OHIO STATE UNIVERSITY**

Dr. TAYLOR. Let me commend the committee for providing us this opportunity, and especially for your vision in incorporating into the 1963 Act provisions for research, development, and evaluation of those things that improve the quality and character of vocational education.

I would like to particularly deal with that section of the appropriations that is provided through the five percent set-aside for programs of national significance. When you review the intent and structure of the educational amendments, it is obvious that the integrity and consistency of those amendments hinge on the full appropriation for programs of improvement. Not only is this true because of the impact that these dollars have on the character and the quality of the Federal investment, but also the influence and

impact that they have on State and local dollars, which now run some 8.5 to 1.

Additionally, programs of national significance are cost effective in the sense that they deal with pervasive national problems, generate products, solutions, mechanisms, that can improve the quality and delivery of vocational education, impact on programs of national priority. With the elimination of these duplicative costs, they do begin to make a difference.

Further, as a result of these authorizations and appropriations, we are beginning to put in place the elements of a nationwide program improvement capacity. The mechanisms are beginning to fall into place. The National Research Center of the Ohio State University, the National Occupational Information Coordinating Councils, State Councils, Commissioner's discretionary funds, other items that are funded under this leadership development and so on. The elements of that are in place.

The key question is, does R&D make a difference? I should think we are increasingly able to document that it does. In the interest of time I am going to summarize, pick one, that I am most familiar with.

Within a year ago we released a hundred performance based teacher ed. modules designed to increase the delivery of vocational teacher education. Within one year, those are now being used in 300 universities, 175 postsecondary institutions; they are being used by United Airlines, 3-M, Kodak, U.S. Steel, and others. They are being used in CETA, the Departments of Defense, Agriculture, Interior, and Justice. R&D products are getting out, are getting used, making a difference. I can cite products in rural guidance; I can cite products that relate to sex fairness, improving the delivery to handicapped, and so on.

Let me just say in kind of a summary with respect to effects—and I am going to skip over this section. We are improving the rigor of evaluation; we are improving the delivery of the comprehensive planning and many of the support mechanisms for those processes are embodied under activities supported under programs of national significance.

On page 21 of my testimony I have a chart which delineates those critical elements that are supported out of there. I give examples of the kinds of activities that are carried out, and the impact they have on the program.

Let me just say that one of the critical aspects of this area is the National Research Center at Ohio State. There are several interdependent functions that are prescribed by the Congress in the '76 Amendments; these are applied research and development, leadership development, information for planning and policy, evaluation services, dissemination services and clearinghouse activities. We are now running an advanced study center with 14 fellows in advanced study. Some come from governors' staffs in manpower and human resource policy; three are former Fulbright scholars. They are working on problems central to national priorities.

The National Academy is running a number of work shops and training activities for State and national leaders. We have had twenty some State leaders in residence for varying periods of time,

formulating State policies and developmental activities for States. Our research and development program is impacting on comprehensive planning, evaluation, sex fair vocational education, and sub-populations.

The mechanisms that are emerging are fragile. There is not adequate money for a monolithic national driven system. It works on the basis of reciprocal benefits, trust and credibility and we are in an awkward situation in that the full five percent set aside of the previous year generated some \$28 million. Last year, through an unfortunate incident in the Senate, we ended up with an appropriation of \$10 million. This has tremendous consequences for maintaining and strengthening the capacities that are emerging under programs of national significance.

The National Occupational Information Center in its organizational year has moved ahead. State committees are under way. Training activities are beginning to emerge. States are beginning to pull together the various elements that ought to be a part of the Congressional mandate to bring to bear the full resources of the State to deliver comprehensive programs of vocational education. We talk about potential teacher shortages. The problem here is that in many instances we are short of advanced study personnel that are supported out of the leadership portion of programs of national significance. Only 18 institutions are presently supported in this area and, if the appropriation does not get up to the full five percent, that program will be out. The impact that that has on future in-service and pre-service needs of teachers is of great concern. We are also concerned with the certificate program, the continuation of the six regional coordination centers and then having some money for the Commissioner to bring to bear the best talent in the nation around some of these programs of national significance—areas of high technology, nuclear energy, solar energy, curriculum development, research on the mainstreaming of handicapped, things of this nature.

Let me just say that in the prepared testimony we have listed a number of unmet needs—and they are infinite. The problem is not to generate the list, the problem is to make them coherent and get some sense of priority.

There are needs in terms of coordinating the vocational education enterprise with other manpower delivery systems. There are needs with respect to strengthening the planning and evaluation capacity. There is need with respect to personnel development, curriculum development, finance studies, things of that sort. Then there is another set of unmet needs that cry out for attention, that are longer range—in terms of humanization of the work place, changing attitudes toward work, changing roles of the home, a number of longer range studies that ought to be undertaken.

I think it is fair to conclude that if we do not get back to the five percent which the authorizing committee has called for to permit us then to support all of these efforts, that a decade or more of deliberate work and development is going to be suboptimized. The survival of some of these elements is at stake, disruption of R&D processes, and more importantly, continued effort on dissemination and utilization of completed R&D.

At the National Center we sorted through 3,500 completed R&D projects, came up with six major projects that were right on target with respect to national priorities, cost effectiveness, improving delivery to the handicapped, improving sex-fair vocational education, improved delivery to the disadvantaged. We have run national conferences on these. Many States are moving aggressively. Some are asking for permission to duplicate those materials.

We have also assembled materials on new and developing occupations, biomedical technology, occupational survival skills and so on. Again, we have been out less than a year and five States have already adopted it; other States have asked permission to duplicate and get those materials out.

The elements of the program improvement capacity are in place. I can think of no more appropriate Federal role than that of supporting activities that influence the character and the quality of the Federal investment and impact on State and local investments.

I hope, Mr. Chairman, that your influence and the support of this committee will permit us to get back up to the original intent and the five percent set-aside for programs of national significance.

Thank you.

Dr. BOTTOMS. Thank you, Dr. Taylor. At this time I call on Ms. Mavis Kelley to talk about the needs in the consumer and homemaking field.

[The prepared testimony of Ms. Kelley follows:]

**TESTIMONY PRESENTED BY MAVIS E. KELLEY, POST-SECONDARY
CONSULTANT, IOWA DEPARTMENT OF PUBLIC INSTRUCTION,
DES MOINES, IOWA**

INTRODUCTION

Mr. Chairman and Members of the Elementary Secondary and Vocational Education Subcommittee, I am Mavis Kelley, Post Secondary Consultant for Vocational Home Economics Programs in the State of Iowa and President of the National Association of State Supervisors of Vocational Home Economics; whose membership currently supervises programs and services to 4 million secondary, post-secondary and adult students enrolled in the consumer and homemaking programs in the United States and its Territories.

I appreciate your invitation and also the privilege of appearing before your subcommittee to discuss the responsiveness and the effectiveness of the consumer and homemaking programs as a part of vocational education and to seek your support for an increase in appropriations for the next fiscal year.

The members of the state supervisors association (NASSVHE) join with the American Vocational Association in support of a request to increase the appropriation level for consumer-homemaking programs to \$50 million (P.L. 94-482 Sub-part 5).

**I. CONSUMER AND HOMEMAKING PROGRAMS - AN INTEGRAL PART OF VOCATIONAL EDUCATION
FOR ALL STUDENTS**

I will first address consumer and homemaking education's role as an integral part of vocational education and its contribution to an individual's dual role in society - the work role within home and the work role outside the home. An individual's ability to manage both roles effectively contributes to their productivity, and their social and economic stability.

Consumer and homemaking education provides individuals with the essential skills for the occupation of homemaking. Consumer and homemaking education is a broad base program which encompasses not only knowledge and skills essential to homemaking but also an affective component involving attitudes and judgmental behavior. It is based on the assumption that youth and adults

must be educated to manage their resources such as money, time, energy and skills. Consumerism continues to be a major focus of all skill areas related to the occupation; nutrition, housing, clothing, child and adolescent development and others. Consumer skills taught as an integral part of the consumer and homemaking program are: essential throughout the individual's life cycle, needed by all persons in all economic groups, and essential in enhancing employability. Consumer and homemaking education continues to help individuals and/or families to adjust their life styles to their financial situations, and teaches consumer skills which are significant in the conservation of energy. Consumer and homemaking education prepares individuals for an occupation which has monetary value since services performed would otherwise have to be purchased in the market place; Chase Manhattan Bank has in the past equated the value of these services at approximately \$14,000.00 per year.

Consumer and homemaking education makes the preparation for work relevant for many individuals. Consumer and homemaking education develops skills that enhance an individual's self-concept as a productive citizen and employee. Much of an individual's values and goals related to the world of work originate from the home setting. The family influences and is influenced by the work environment of family members. The work environment and home environment can be mutually supportive of one another if individuals are prepared to recognize their dual role responsibility.

Consumer and homemaking education helps the individual become socially and economically stable. A study of employment related problems identified by female high school graduates in Iowa as they participated in the work place

were money management, food management, acceptance by family members of newly acquired work roles, finding suitable living arrangements, and interpersonal relationships both on and off the job. It is significant to note the students who had been enrolled in the consumer and homemaking classes reported fewer problems in these employment related areas.

Management of financial resources is given a priority in many consumer and homemaking programs because financial problems are recognized as a primary source of stress in the employment setting and the home for both individuals and families. Let me illustrate with a success story of a student who benefited from a consumer and homemaking program. The high school principal and several faculty members reported that it was a triumph for the school and specifically of the consumer and homemaking program that the student, a graduate of a Wisconsin high school, had become the first member of her family to stay out of trouble with the law, to complete high school, to establish a stable home, and even to become a community leader.

Consumer and homemaking helps the individual make dual family and career plans and decisions. Preparation for managing the work of the home and outside employment is addressed very specifically; the decision to assume both roles, techniques to combine roles successfully, and evaluation of the consequences of the career decisions. The curriculum emphasizes the development of managerial and living skills important to all vocational education students and necessary for performance on the job, in the home or the market place.

Consumer and homemaking education helps the individual develop personal and interpersonal skills. Interpersonal relationship skills are important in the occupation of homemaking and in all other occupations. There is evidence that

many people lose their jobs because of their inability to get along with employers or employees. Similarly it is suspected that unsatisfactory interpersonal relationships is a major cause of separation and divorce of families. Similarly it has been documented that there are significant gains in a student's self-concept, feelings of self-worth, in equality with others and respect for themselves as a result of participation in programs of consumer and homemaking education.

Consumer and homemaking education contributes to the productivity of workers.

The State of Georgia has one of the largest enrollments of youth and adults in post-secondary consumer and homemaking education program. Employers have testified that employees currently enrolled or graduates of consumer and homemaking education courses have given evidence of being more responsible and having better managerial skills that enable them to better cope with problems than employees not enrolled in these courses. Consumer and homemaking knowledge and skills can easily be applied to the productivity of workers. For instance, application of the principles of nutrition should diminish nutrition related illness and therefore the absenteeism caused by these illnesses. Also the application of principles of interpersonal relationships as it is applied to individual stress and tension; stress and tension are factors that influence an individual's productivity in their work role. Application of principles of consumerism help the employee manage and receive the greatest benefit from their earnings creating greater self-satisfaction and higher productivity.

II. CONSUMER AND HOMEMAKING EDUCATION'S RESPONSIVENESS TO FEDERAL PRIORITIES

Elimination of sex role stereotyping in the curriculum. State education agencies have given guidance to teachers and administrators to help them

understand their role in the elimination of sexism in student recruitment, course offerings, resource materials, and physical classroom environment. Implementation of the ideas will serve to diminish sex role stereotyping in consumer and homemaking classes. The elimination of sex bias and sex stereotyping will serve to both increase the number of male students served in consumer and homemaking education and also set a more favorable learning climate for all students. Enrollments show that there has been a steady increase in the number of male students served in consumer and homemaking education classes. More dramatic data is that which will be collected in the current and succeeding years. Iowa is proud to report a remarkable enrollment gain; in 1968 only 1 percent of secondary students in consumer and homemaking education were male, nine years later (1977) 23 percent of the enrollment was male students.

Greater accessibility of programs to disadvantaged and handicapped persons.

The State of Ohio last year reported 20 percent of enrollees in consumer and homemaking programs were handicapped or disadvantaged. Services were provided through mainstreaming and specialized classes. Within the past year identification of handicapped has been more definitive and mainstreaming into regular consumer and homemaking programs has become a reality as evidenced by enrollment growth of handicapped students more than six times that of the 1975-76 school year. Another federally funded innovative program in Ohio is being conducted for disadvantaged persons in the inter city. Students will be taught simple home repairs and then tool maintenance kits will be loaned out for the student to use in the improvement of their home environment. Hopefully, their pride in the accomplishment will help to build not only skills but self-esteem and acceptance of responsibility to the upkeep on one's

home environment. Many of these students live in public housing where often people assume little or no responsibility for the maintenance of private or public property.

Programs for disadvantaged persons have also been conducted in correctional institutions, halfway houses and work release programs. The curriculum content is tailored to the student's needs and emphasizes consumer education, coping skills, parent education, values clarification, self-concept, family relationships and nutrition.

Sub-part 5 monies are used in Kentucky to partially support a consumer and family life skills program at the Kentucky Correctional Institute for Women. The purpose of this program is to help residents develop basic living skills on an individualized basis with emphasis in interpersonal relations, decision-making skills and parenting skills. Students enrolled in the other vocational education programs offered at the school may also be enrolled in this program which adds to their employability skills. Even though success stories may be hard to find as more than 50% of offenders may be again incarcerated; administrators feel the success is in the attitude changes of the residents and cooperation they show during the incarcerated period. Observers of the program have labeled it very worthwhile.

State supervisors have consistently documented the desire of local education agencies to increase programs or services to the disadvantaged in economically depressed areas. Federal legislation requires at least one-third of the Sub-part 5 funds appropriated to states be allocated to this target population. In reality a great number of states actually allocate more than the 33 percent requirement.

Parent and nutrition education programs accessible to school age parents and pregnant adolescents. Parent education designed for adolescents addresses the preventive approach with emphasis on decisions to make before becoming a parent, values clarification, and a knowledge of the needs of children for food, shelter, guidance and education.

Although a high percentage of pregnant students elect to drop out of school because of health, financial, emotional or social reasons some students do decide to remain in their regular schools or attend special programs if they exist locally. Consumer and homemaking education teachers reach a very high percentage of those enrolled in the regular classes but because of privacy these students often are not isolated in statistics. Within the home economics curriculum they will be taught many concepts and competencies that can help them, and the regular student, function more effectively as a parent as well as give them a better understanding of child growth and development and personal and family relationships. Ohio reported assisting in the funding of seven local teen age parent programs where students received instruction concerning the management of personal resources, child care and guidance, nutrition, coping with everyday problems, and making decisions about future goals for self and child. Community health and social agencies are deeply involved as they provide supportive services to these educational programs.

Expansion of programs to serve post-secondary and adult audiences. State supervisors of consumer and homemaking education report remarkable growth of both post-secondary and adult enrollments. Two years ago Wisconsin served over 28,000 students; Iowa over 38,000; and Kentucky over 21,200. The following summary of program offerings illustrate both responsiveness to

curriculum and to audiences included as emphasis areas in the federal law:

Curricular Areas

Consumer Education

Parent Education

Nutrition Education

Audiences

Welfare Recipients

Low Income Rural Families

Displaced Homemakers

Senior Citizens

Minority Groups, Spanish Speaking
Adults, Vietnamese, Native Americans,
and Others

WIC Clients

Parents with Children in Foster Care

WIC Clients

Inmates of Correctional Institutions

Single Parent Families

Head Start Parents

Low Income, Disadvantaged Parents
Enrolled in Post-secondary Programs

WIC Clients

Vietnamese Refugees

Low Income Families, Rural and Urban

Residents of Spanish Speaking Community

Head Start Parents

Senior Citizens

The State of Iowa made a commitment to serve greater numbers of adult students in Fiscal Year 1974. A special grant program was initiated utilizing federal and state vocational education funds. All post-secondary institutions elected to participate resulting in an increase in adult consumer

and homemaking students from 10,000 served in FY '74 to over 33,000 served in FY '78; a dramatic increase in a four-year period, stimulated by the presence of federal vocational education funds.

III. FACTORS WHICH HAVE CONTRIBUTED TO THE EFFECTIVENESS OF CONSUMER AND HOMEMAKING EDUCATION PROGRAMS

Consumer and homemaking education programs have been successful because of the following factors: Consumer and homemaking instructors are very knowledgeable about the process by which secondary, post-secondary, and adult students learn; Consumer and homemaking education addresses needs of the society in which the program is offered; Consumer and homemaking education has developed a system for organizing curriculum materials; Consumer and homemaking education has given recognition to the traditions of cultural groups; Consumer and homemaking education has blended contemporary life outside the school with the education setting, i.e., studies of families today, employment patterns, government policies affecting welfare reform, and care of the elderly; and most important, consumer and homemaking education has given primary attention to the individual learners.

IV. AN INCREASE IN FEDERAL APPROPRIATIONS - NEW INITIATIVE AND GREATER LOCAL COMMITMENT

Consumer and homemaking program educators are committed to carrying out the new challenges outlined in the vocational education amendments. They are requesting a funding level for FY '80 of \$50 million to meet the challenge granted by Congress. We believe \$50 million will allow every state to expand services and programs. An increase in federal funds will stimulate increased state and local appropriations for consumer and homemaking assuring the opportunity to expand programs. Specifically we believe expansion of programs

and services will occur in six areas:

- Expansion of consumer and homemaking secondary and post-secondary programs to respond to a greater number of male students who seek skill training in the occupations of homemaking. High schools in every state turn away potential students, male and female, because of a lack of federal funding to stimulate and increase the number of programs. Additional federal funds are needed to reach additional male students.
- Expansion of consumer and homemaking programs in rural and urban areas to reach target audiences. Outreach programs have been mandated in the new law; the cost implementation of outreach programs add substantial excess cost to the existing program. Additional federal funds are needed to implement the congressional mandate for outreach programs to reach target audiences.
- Expansion of consumer and homemaking programs in every community to include special needs students within the classroom setting and encourage special services to meet their unique needs. Additional federal funds are needed to reach special needs audiences.
- Expansion of the number of staff available to provide a realistic student-teacher ratio in classes which mainstream handicapped and disadvantaged students. Additional federal funds are needed to provide appropriate learning environments for disadvantaged and handicapped students.
- Expansion of resources available to be utilized in economically depressed areas or areas of high rates of unemployment. Additional

federal funds are needed to provide consumer and homemaking programs in depressed areas.

---Expansion of the number of offerings available to the large percentage of students who do not drop out of secondary schools including school age parents. Additional federal funds are needed to expand the number of offerings to secondary students who graduate from high schools.

3½ million students were served in consumer and homemaking programs in FY '76 at a cost per student of \$11.50 of federal funds; \$50 million would allow us to serve 4.3 million students at the same level of federal funding per student. The increase in number of students seeking access to consumer and homemaking programs in rural and urban areas, at all instructional levels and those who are in special populations far exceed 4.3 million people. However, we feel a \$50 million appropriation would allow us to realistically expand programs and services to serve an additional .8 million students in one years time if all inflationary costs are covered by state and local funds.

CONCLUSION

The secondary, post-secondary and adult vocational education students of today will be the active work force of the near future. We ask you to give all vocational education students the opportunity to prepare themselves to manage both a family life and a career; we ask you to support additional appropriations vitally needed to continue and expand the consumer and homemaking programs in our secondary and post-secondary institutions. We ask you not to leave the future of our nation's work force to chance. Invest in the educational delivery system - consumer and homemaking education - which recognizes the relationship between success in the home environment and productivity in the work environment. It will be an acknowledgement of the fundamental importance of the management role of households to the economic and social well being of our nation.

STATEMENT OF MAVIS E. KELLEY, POST-SECONDARY CONSULTANT, IOWA DEPARTMENT OF PUBLIC INSTRUCTIONS, DES MOINES, IOWA

Ms. KELLEY. Thank you, Dr. Bottoms.

Mr. Chairman and members of the committee, I am pleased to be here from the State of Iowa this morning to address you as a State education agency educator, and also as the president of the State Supervisors' Association of Vocational Home Economics Programs.

The State supervisors in the United States supervise and provide program services to over four million students in secondary, postsecondary and adult education throughout this country. You have asked us, how have we been responsive, how have we been effective, what have we been doing with the legislation that you have provided us on the national level.

I would like to indicate in summary formation how we have been responsive and how the programs have been effective. By telling you this, tell you that the State Supervisors' Association—myself as a State supervisor—join with the American Vocational Association in requesting an increase in appropriation for consumer and home-making programs to a \$50 million level.

I will first speak about consumer and home-making education's role as an integral part of vocational education for it contributes to an individual's dual role in society. Many of you have read in popular magazines and in almost any print form the concept that each of us carries a dual role in society. All of us perform work within the home, and all of us perform work outside of the home. The individual's ability to manage both of those roles contributes to their productivity in the work place and the home, and their social and economic stability.

We are still providing the essential skills of the occupation of homemaking, the knowledge and skills that you are very familiar with. But we are also working in the areas of attitudes and judgmental behavior with youth and adults. We are working with them to help them manage their resources, money, time, energy and skill. We are continuing to do as you have asked, to emphasize consumerism as it relates to housing, clothing, food, nutrition and the development of children.

The consumer skills that we teach and we emphasize are essential throughout an individual's life cycle. They are needed by all persons and all economic groups, and they are most importantly, essential in enhancing the employability of individuals.

We believe that consumer and homemaking education makes the preparation for work relevant for individuals. It helps to enhance the individual's self-concept as a productive citizen and employee. We believe that the home setting is the first influence in a person's work attitude. The family influences and is influenced by the work environment of the family members. The work environment and the home environment can be mutually supportive of one another if individuals are prepared to recognize their role responsibility. We believe that consumer and homemaking education helps the individual become socially and economically stable.

You would be interested to know that in a study that we did of Iowa high school graduates they felt that some of the problems they have when they get out into the work force are things such as money management, food management, acceptance by family members of newly acquired work roles—maybe some of the females who are in nontraditional occupations—finding suitable living arrangements, and inter-personal relationships, both on and off the job.

Just previously I have indicated that this is in fact the course content of consumer and homemaking. In those survey studies that we did with our Iowa graduates we found that the students who had

been enrolled in consumer and homemaking classes reported fewer problems in those employment-related areas.

Management of financial resources is a priority, as you have directed us to give it, and as we have chosen to place it in our curriculum. Many of you will recognize that a person's ability to manage their personal financial resources may or may not cause stress in the employment setting and in the home. The success that a student has in the management of many kinds of resources, not only financial, contributes to their productivity as an employee.

I think it is remarkable—sharing some information from Wisconsin with Dr. Davis—that one of the administrators said of a female student in the consumer and homemaking program that the effectiveness of her program led her to be the first member of her family to stay out of trouble with the law; to complete high school; to establish a stable home, and to become a community leader. I think that is a fine reputation for any State's program.

We believe that consumer and homemaking helps the individual make dual family and career plans and decisions. We believe that it helps develop personal and inter-personal skill. The skill of personal relationship is important not only in the home but on the job for we have seen documented time and again that many people lose their jobs because of their inability to get along with employers or employees. We also realize that personal relationship is one of the major causes of separation and divorce of families.

It has also been documented that there are significant gains in a student's self-concept, self-worth, feelings of equality with others, and respect for themselves as a part of, or in relation to their participation in consumer and homemaking programs.

We believe that consumer and homemaking contributes to the productivity of workers. Let me just illustrate in a couple of ways that I have seen documented. One is related to the concern of absenteeism. Much of what we have seen of a person's knowledge of nutrition-related illnesses and diseases is related to a person's ability to apply what they know about nutrition to their personal health. Certainly, this affects the productivity, the absenteeism rate of employees.

Inter-personal relationships regarding stress and tension are a part of the inter-personal relationship areas that are covered in the consumer and homemaking program.

I would like to move, then, quickly into how have we been responsive to some of the general Federal priorities for all of vocational education. I believe the consumer and homemaking has contributed to the elimination of stereotyping in the curriculum. We have greater numbers of males enrolled in the consumer and homemaking. In Iowa, in 1968, only one percent of our secondary students were male. We are proud to say that nine years later, in 1977, 23 percent of our program participants were males.

We have increased the number of disadvantaged and handicapped students, and it may be in some ways that many of you are not familiar with. In Kentucky, it is reported, that a consumer and family life skills program has found a great deal of success in the Kentucky Correctional Institute for Women. They emphasize parenting skills, inter-personal relationship, and decision-making skills.

You have asked us to pay attention to and participate in parent and nutrition education programs accessible to school-aged parents and pregnant adolescents. We have in our programs the preventive approach in dealing with the high school students who are part of our ongoing population, but the consumer and homemaking has and always will address a large percentage of the pregnant students who remain in school in their regular high school programs. We emphasize in these programs management of personal resources, child care and guidance, coping with every-day problems, and making decisions related to self and child.

We have increased, as you have asked us to, our post-secondary and adult education programs. Since this is the area that I work with most frequently in the State of Iowa, I am very proud of the fact of the growth that we have had in Iowa, moving from a population of adults of 10,000 in fiscal '74 to over 33,000 in the last fiscal year. You may be wondering, are those 33,000 people that you have served over the years the same people, and I submit to you that they are not. I would like to submit to you that we are reaching welfare recipients, low-income rural families, displaced homemakers, the elderly, single-parent families.

You have asked us through your correspondence to indicate what an increase in Federal appropriations would mean, and I submit that it would mean new initiatives and greater local commitments. A level of \$50 million would allow us to do, briefly, six things. We would serve additional male students. We would reach new target audiences and meet that increased excess cost. We would reach special needs audiences and integrate them into our regular classroom setting. We would have a more appropriate student-teacher ratio in the classes where we mainstream disadvantaged and handicapped students. We would have resources available to serve in outreach programs, such as the correctional institutions.

We are very concerned, lastly, about the large percentage of students who do not drop out of secondary schools, including school-aged parents. We need to expand the number of offerings to secondary students who graduate from high school. You are familiar with declining enrollment, but I submit to you that even though total numbers are declining, we have an increase in the number of students who wish to take the programs which we provide.

We ask you through your legislation, through your appropriation of moneys, to recognize the relationship between the success in the home environment and the productivity in the work environment. We are basically saying, acknowledge the fundamental importance of the management role of households to the economic and social wellbeing of our nation.

Thank you, Mr. Perkins.

Dr. BOTTOMS. Thank you.

Now, our last presenter will be Dr. Melvin Chapman and David Hart to present the needs of Federal investment in a city such as Detroit.

[The prepared testimony of Dr. Chapman follows:]

**TESTIMONY OF MELVIN CHAPMAN, DEPUTY SUPERINTENDENT
OF THE DETROIT PUBLIC SCHOOLS**

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

MY NAME IS MELVIN CHAPMAN AND I AM DEPUTY SUPERINTENDENT OF THE DETROIT PUBLIC SCHOOLS. I WISH TO THANK THE SUBCOMMITTEE FOR INVITING ME TO TESTIFY THIS MORNING REGARDING VOCATIONAL EDUCATION.

I HAVE PREPARED A TESTIMONY DETAILING (1) THE PROGRAMS OPERATED BY THE DETROIT PUBLIC SCHOOLS WHICH ARE PARTIALLY OR ENTIRELY SUPPORTED WITH FUNDS MADE AVAILABLE BY THE VOCATIONAL EDUCATION ACT; (2) OBSTACLES HINDERING THE EFFECTIVENESS OF VOCATIONAL EDUCATION PROGRAMS AND, (3) THE IMPROVEMENTS WHICH CAN BE MADE TO ENSURE THAT VOCATIONAL EDUCATION PROGRAMS WILL HAVE A GREATER ROLE IN ADDRESSING THE JOB TRAINING NEEDS FOR YOUTH.

I WOULD LIKE AT THIS TIME TO PRESENT SOME OF THE STATEMENTS MADE IN THAT TESTIMONY.

THE VOCATIONAL EDUCATION ACT OF 1963 AND SUBSEQUENT AMENDMENTS OF 1968 AND 1976 HAVE PROVIDED FUNDS WHICH ENABLED THE DETROIT PUBLIC SCHOOLS AND OTHER SCHOOL DISTRICTS THROUGHOUT THE COUNTRY TO SUBSTANTIALLY IMPROVE AND EXPAND THE VOCATIONAL AND TECHNICAL EDUCATION PROGRAMS WHICH WERE PREVIOUSLY SUPPORTED WITH LOCAL AND STATE REVENUES AND FUNDS MADE AVAILABLE BY THE SMITH-HUGHES AND GEORGE-BARDEN ACTS. DURING THE SCHOOL YEAR PRIOR TO THE 1963 ACT, THE STATE OF MICHIGAN RECEIVED APPROXIMATELY TWO MILLION DOLLARS IN FEDERAL FUNDS TO SUPPORT VOCATIONAL EDUCATION PROGRAMS. BY THE END OF THE PAST SCHOOL YEAR THIS AMOUNT HAD INCREASED TO MORE THAN 21 MILLION DOLLARS WITH A CORRESPONDING INCREASE IN THE SERVICES THAT WERE PROVIDED TO STUDENTS. BY INCLUDING BUSINESS AND OFFICE OCCUPATION TRAINING PROGRAMS AMONG THOSE WHICH WERE ELIGIBLE FOR SUPPORT, AND PERMITTING FEDERAL FUNDS TO BE USED FOR THE PURCHASE OF EQUIPMENT, MODIFICATION OF EXISTING FACILITIES AND NEW CONSTRUCTION, THE 1963 ACT AND 1968 AMENDMENTS MADE IT POSSIBLE FOR THE DETROIT PUBLIC SCHOOLS TO PROVIDE AN OPPORTUNITY FOR NEARLY ALL STUDENTS TO ENROLL IN AT LEAST ONE VOCATIONAL EDUCATION CLASS. THESE CLASSES ARE DESIGNED TO FURNISH CAREER EXPLORATION OPPORTUNITIES, DEVELOP MARKETABLE SKILLS, STIMULATE AVOCATIONAL INTERESTS AND/OR LAY THE GROUND WORK FOR MORE ADVANCED CLASSES. ENROLLMENT IN NEARLY ALL VOCATIONAL EDUCATION CLASSES WAS FORMERLY LIMITED TO STUDENTS DESIGNATED AS ENROLLEES IN A VOCATIONAL CURRICULUM.

THE AMENDMENTS OF 1976 NOT ONLY PROVIDED THE FUNDS TO IMPROVE EXISTING PROGRAMS AND IMPLEMENT NEW ONES BUT ALSO MADE AVAILABLE SPECIAL OPPORTUNITIES FOR ECONOMICALLY/EDUCATIONALLY DISADVANTAGED, PHYSICALLY AND MENTALLY HANDICAPPED, AND LIMITED ENGLISH SPEAKING STUDENTS. BY PROVIDING SPECIAL OPPORTUNITIES FOR THESE STUDENTS WHO AS ADULTS TRADITIONALLY CONSTITUTE A DISPORPORTIONATE SHARE OF THE UNEMPLOYED LABOR FORCE, THE AMENDMENTS OF 1976 HAVE EXTENDED THE OPPORTUNITY FOR PARTICIPATION IN VOCATIONAL EDUCATION PROGRAMS TO VIRTUALLY ALL STUDENTS ENROLLED IN DETROIT PUBLIC HIGH SCHOOLS. FUNDS PROVIDED BY THE 1976 AMENDMENTS WILL ALSO BE USED TO DEFRAY APPROXIMATELY 50 PERCENT OF THE COST OF THE FIVE AREA VOCATIONAL CENTERS WHICH ARE BEING PLANNED AND CONSTRUCTED BY THE SCHOOL DISTRICT PURSUANT TO THE RULING OF U. S. DISTRICT JUDGE ROBERT E. DEMASCIO ON AUGUST 15, 1975. THESE ARE DESIGNED TO SERVE ALL INTERESTED STUDENTS THROUGHOUT THE CITY BY PROVIDING TRAINING OPPORTUNITIES IN AT LEAST 37 OCCUPATIONAL FIELDS. THE COST FOR ESTABLISHING THESE CENTERS IS BETWEEN 40 AND 50 MILLION DOLLARS.

ONE OF THE MOST SUCCESSFUL VOCATIONAL EDUCATION PROGRAMS CURRENTLY OPERATED BY THE SCHOOL DISTRICT IS THE COOPERATIVE EDUCATION PROGRAM IN OFFICE PRACTICE AND RETAILING. EACH YEAR MORE THAN 1500 STUDENTS ARE PLACED IN UNSUBSIDIZED JOBS WHICH ARE DIRECTLY RELATED TO THEIR VOCATIONAL ASPIRATIONS.

UNDER THE SUPERVISION OF PARTICIPATING EMPLOYERS, STUDENTS GAIN VALUABLE HANDS-ON EXPERIENCE IN THE WORLD OF WORK, EARN NO LESS THAN THE LEGAL MINIMUM WAGE, AND RECEIVE ACADEMIC CREDIT FOR THEIR WORK EXPERIENCE. UPON GRADUATION MANY OF THE STUDENTS ARE OFFERED FULL TIME EMPLOYMENT BY THE PARTICIPATING EMPLOYERS.

FEDERAL FUNDS HAVE MADE IT POSSIBLE FOR THE SCHOOL DISTRICT TO ADD A NEW DIMENSION TO ITS VOCATIONAL EDUCATION PROGRAMS. A PLACEMENT PROJECT DESIGNED TO ASSIST GRADUATING SENIORS FIND EMPLOYMENT HAS BEEN OPERATING FOR THE PAST THREE YEARS. DURING THE PAST YEAR STAFF FROM THIS PROJECT, WORKING IN COOPERATION WITH MICHIGAN EMPLOYMENT SECURITIES COMMISSION, HAVE ASSISTED MORE THAN 3000 GRADUATING SENIORS TO FIND ENTRY LEVEL EMPLOYMENT.

ALTHOUGH CONSIDERABLE PROGRESS HAS BEEN MADE OVER THE PAST SEVERAL YEARS IN OUR VOCATIONAL EDUCATION PROGRAMS, I RECOGNIZE THAT THERE IS SUBSTANTIAL ROOM FOR IMPROVEMENT. THIS IMPROVEMENT CANNOT BE BROUGHT ABOUT WITH INCREASED FUNDING ALONE BUT REQUIRES INNOVATIVE APPROACHES, AND ACTIVE ASSISTANCE FROM PERSONS AND GROUPS FROM BOTH WITHIN AND OUTSIDE THE EDUCATIONAL ESTABLISHMENT.

LISTED BELOW ARE SOME OF THE OBSTACLES WHICH I BELIEVE ARE SERIOUSLY HAMPERING THE EFFECTIVENESS OF VOCATIONAL EDUCATION PROGRAMS AND MEASURES WHICH NEED TO BE TAKEN IN ORDER TO OVERCOME THEM:

(1) FRAGMENTATION OF VOCATIONAL EDUCATION: THE SCHOOL'S

UNWILLINGNESS TO VIEW VOCATIONAL EDUCATION AS AN INTEGRAL AND ESSENTIAL PART OF ALL EDUCATION GENERALLY HAS LED TO A SECOND CLASSNESS OF VOCATIONAL EDUCATION WHICH HAS GREATLY REDUCED THE POTENTIAL OF VOCATIONAL EDUCATION. WHILE MORE IMPORTANTLY, FRUSTRATING MILLIONS OF YOUNG AMERICANS WITH RESPECT TO CAREER OPTIONS. VOCATIONAL EDUCATION HAS BEEN VIEWED IN THE PAST--AND FOR THE MOST PART IS STILL VIEWED--AS EDUCATION FOR THOSE WITH LIMITED ACADEMIC TALENTS, A SECOND CHOICE OF AN ALTERNATIVE TO WHAT IS VIEWED AS "REAL" EDUCATION. SCHOOL, STAFF, PARENTS, AND STUDENTS MUST BE MADE AWARE OF THE IMPORTANCE OF AT LEAST SOME PARTICIPATION BY ALL STUDENTS IN VOCATIONAL EDUCATION PROGRAMS. THE OVERWHELMING DOMINANCE AND EMPHASIS OF ACADEMIC PROGRAMS IN THE STRUCTURE OF PUBLIC EDUCATION MUST BE PLACED IN PROPER PERSPECTIVE.

(2) LACK OF INVOLVEMENT BY PRIVATE INDUSTRY IN PLANNING AND CARRYING OUT VOCATIONAL EDUCATION PROGRAMS:

SINCE MOST JOBS EXIST IN THE PRIVATE SECTOR WITH EMPLOYERS DETERMINING WHETHER OR NOT JOB APPLICANTS POSSESS THE NECESSARY SKILLS AND QUALIFICATIONS TO BE EMPLOYED, IT FOLLOWS THAT EMPLOYERS WOULD HAVE MEANINGFUL INPUT INTO THE DESIGN AND OPERATION OF VOCATIONAL EDUCATION PROGRAMS.

BRIDGING THE GAP BETWEEN HIGH SCHOOL GRADUATION AND SUCCESSFUL ENTRY INTO THE WORLD OF WORK MUST BE A PRIMARY GOAL OF VOCATIONAL EDUCATION PROGRAMS AND CAN ONLY BE ACCOMPLISHED WHEN SCHOOLS AND PROSPECTIVE EMPLOYERS CLEARLY UNDERSTAND WHAT IS EXPECTED OF EACH OTHER AND MUTUALLY DEVELOP SOLUTIONS TO PROBLEMS ARISING OUT OF THESE EXPECTATIONS.

- (3) LACK OF INVOLVEMENT BY LABOR ORGANIZATIONS AND TRADE COUNCILS:
- ARTIFICIAL BARRIERS TO ENTRY LEVEL EMPLOYMENT ESPECIALLY IN THE BUILDING TRADES ARE PREVENTING MANY YOUNG PEOPLE WHO ARE OTHERWISE QUALIFIED FROM ENTERING INTO APPRENTICESHIP PROGRAMS. SENSING THIS LACK OF OPPORTUNITY, MANY HIGH SCHOOL STUDENTS AVOID PARTICIPATION IN VOCATIONAL EDUCATION PROGRAMS DESIGNED TO PREPARE THEM FOR ENTRY INTO APPRENTICESHIP PROGRAMS. SCHOOL STAFF NEED TO WORK CLOSELY WITH REPRESENTATIVES FROM ORGANIZED LABOR AND TRADE COUNCILS WHICH ESTABLISH AND MAINTAIN REQUIREMENTS FOR ENTRY INTO APPRENTICESHIP PROGRAMS. THE GOAL OF THIS COOPERATIVE EFFORT SHOULD BE THE ELIMINATION OF ARTIFICIAL BARRIERS AND ESTABLISHMENT OF PROGRAMS DESIGNED TO HELP STUDENTS ACQUIRE THE MEANINGFUL REQUIRED SKILLS.

- (4) LACK OF UP-TO-DATE EQUIPMENT AND FACILITIES: ALTHOUGH IT WOULD BE UNREALISTIC TO EXPECT THAT VOCATIONAL EDUCATION FACILITIES USED IN SCHOOLS COULD BE CONTINUALLY UPDATED TO KEEP ABREAST OF THE CHANGING CONDITIONS THAT EXIST IN INDUSTRY, THERE IS AN URGENT NEED TO REPLACE OUTDATED EQUIPMENT AND ALTER BUILDING FACILITIES CURRENTLY BEING USED IN MANY SCHOOLS TODAY.

CLOSE COOPERATION BETWEEN SCHOOL AND PRIVATE INDUSTRY WILL HELP REDUCE THE DISCREPANCIES THAT EXIST BY PROVIDING STUDENTS AND STAFF WITH OPPORTUNITIES TO OBTAIN "HANDS-ON EXPERIENCE" WITH THE MOST UP-TO-DATE EQUIPMENT. HOWEVER, EVEN THE CLOSEST COOPERATION WILL NOT RESULT IN SCHOOLS RECEIVING THE LATEST TYPE OF EQUIPMENT OR NEEDED BUILDING MODIFICATIONS. IT IS ESTIMATED THAT MORE THAN SEVEN MILLION DOLLARS WOULD BE REQUIRED TO UPDATE THE VOCATIONAL EDUCATION EQUIPMENT CURRENTLY BEING USED IN DETROIT SCHOOLS AND SEVERAL MORE ADDITIONAL MILLIONS OF DOLLARS TO UPDATE THE BUILDINGS MOST OF WHICH ARE MORE THAN 30 YEARS OLD. THIS IS IN ADDITION TO THE 40 TO 50 MILLION DOLLARS REQUIRED FOR THE FIVE AREA VOCATIONAL CENTERS PREVIOUSLY MENTIONED. LIMITED RESOURCES OF THE SCHOOL DISTRICT HAVE PREVENTED US FROM EXTENSIVELY UPDATING THE EQUIPMENT AND RENOVATING FACILITIES USED IN VOCATIONAL EDUCATION PROGRAMS.

(5) LACK OF ADEQUATE OPPORTUNITIES FOR STAFF TO PARTICIPATE
IN MEANINGFUL IN-SERVICE TRAINING:

EFFECTIVE VOCATIONAL EDUCATION PROGRAMS REQUIRE THAT STAFF BE FAMILIAR WITH THE CURRENT STATE OF THE JOB MARKET, THE REQUIREMENTS FOR SUCCESSFUL ENTRY INTO THE WORLD OF WORK AND UP-TO-DATE TECHNIQUES FOR HELPING STUDENTS MASTER SKILLS FOR SUCCESSFUL ENTRY INTO THE WORLD OF WORK OR TO PROCEED DIRECTLY TO POST HIGH SCHOOL TRAINING PROGRAMS. THIS PROBLEM IS ACCENTUATED BY THE DECLINING ENROLLMENT CURRENTLY TAKING PLACE IN MOST LARGE CITY SCHOOL SYSTEMS. FEWER TEACHERS WHO ARE FRESH OUT OF COLLEGE ARE BEING ADDED TO TEACHING STAFF.

OPPORTUNITIES FOR EXISTING STAFF TO PARTICIPATE IN PROGRAMS DESIGNED TO UPDATE THEIR QUALIFICATIONS AND TEACHING METHODS MUST BE MADE AVAILABLE AND PERHAPS EVEN REQUIRE MANDATORY PARTICIPATION. THESE PROGRAMS SHOULD INCLUDE PARTICIPATION BY PRIVATE INDUSTRY, LABOR AND TRADE ORGANIZATIONS, INSTITUTIONS OF HIGHER LEARNING AND TEACHER PROFESSIONAL ORGANIZATIONS.

IN ORDER FOR THE SCHOOL DISTRICT TO MAINTAIN A STATUS QUO IN ITS CURRENT EFFORTS TO PROVIDE VOCATIONAL EDUCATION OPPORTUNITIES TO ALL STUDENTS IT IS NECESSARY TO OFF SET RISING COSTS DUE TO INFLATION AND CONTINUED DETERIORATION OF EQUIPMENT

AND FACILITIES. AS I HAVE PREVIOUSLY STATED NEW AND INNOVATIVE APPROACHES ARE NEEDED TO OVERCOME OBSTACLES THAT HINDER THE EFFECTIVENESS OF VOCATIONAL EDUCATION PROGRAMS. HOWEVER, MANY OF THESE APPROACHES INVOLVE PARTNERSHIPS WITH OTHER INSTITUTIONS AND ORGANIZATIONS. / ID AS IN ANY SUCCESSFUL PARTNERSHIP ALL PARTIES MUST AGREE TO ASSUME THEIR FAIR SHARE OF THE COST. CONSEQUENTLY, IN ORDER TO IMPROVE THE EFFECTIVENESS OF VOCATIONAL PROGRAMS CONSIDERATION MUST BE GIVEN TO INCREASED FUNDING BEYOND THAT WHICH IS REQUIRED TO OFF SET COSTS DUE TO INFLATION AND CONTINUED DETERIORATION OF EQUIPMENT AND FACILITIES.

OVER THE NEXT SCHOOL YEAR IT IS ESTIMATED THAT WE WILL NEED AN INCREASE OF AT LEAST 8 MILLION DOLLARS IN OUR CURRENT VOCATIONAL EDUCATION ACT FUNDS IN ORDER TO BRING ABOUT MINIMAL EXPANSION OF OUR EXISTING VOCATIONAL EDUCATION PROGRAMS AND REMOVE SOME OF THE MORE SERIOUS OBSTACLES WHICH ARE HINDERING THE EFFECTIVENESS OF THESE PROGRAMS. THIS DOES NOT INCLUDE THE 7 MILLION DOLLARS THAT IS NEEDED TO UPGRADE OUR EQUIPMENT, THE SEVERAL MILLION THAT WOULD BE NEEDED TO RENOVATE FACILITIES OR ANY PORTION OF THE 40 TO 50 MILLION DOLLARS REQUIRED TO ESTABLISH THE 5 AREA VOCATIONAL CENTERS.

AGAIN I WOULD LIKE TO THANK THE MEMBERS OF THE COMMITTEE FOR THIS OPPORTUNITY TO TESTIFY AND WILL CONCLUDE BY SAYING THAT THE YOUNG PEOPLE OF DETROIT HAVE PROFITED FROM THOSE PROGRAMS YOU HAVE SPONSORED. ALTHOUGH WE ARE NOT SATISFIED WITH THE CURRENT UNEMPLOYMENT RATE AMONG YOUNG PEOPLE IN DETROIT, THESE PROGRAMS HAVE MADE IT POSSIBLE FOR A SUBSTANTIAL NUMBER OF RECENT HIGH SCHOOL GRADUATES TO SUCCESSFULLY ENTER THE WORLD OF WORK.

I WILL BE HAPPY TO RESPOND TO ANY QUESTIONS FROM THE MEMBERS OF THE COMMITTEE.

STATEMENT OF MELVIN CHAPMAN, DEPUTY SUPERINTENDENT FOR EDUCATIONAL SERVICES, DETROIT PUBLIC SCHOOLS, AND DAVID HART, ASSISTANT DIRECTOR, TECHNICAL ASSISTANCE TEAM FOR VOCATIONAL EDUCATION, DETROIT, MICHIGAN

STATEMENT OF MELVIN CHAPMAN, DEPUTY SUPERINTENDENT FOR EDUCATIONAL SERVICES, DETROIT PUBLIC SCHOOLS

Dr. CHAPMAN. Thank you very much.

I want to correct for the record that I am Melvin Chapman, Deputy Superintendent for Educational Services in the Detroit Public Schools, and not the Assistant Superintendent for Instruction. We have an Assistant Superintendent for Instruction.

I also want to point out that by background I am not in vocational education, but I do want to speak to this very critical issue.

I think there is no question that in Detroit and in other major cities in this country Vocational Education Act of 1963 and the subsequent amendments have substantially improved vocational education services in our school district. For an example, in the year prior to 1963 our State received something like \$2 million of vocational education funds; last year we received in excess of ten times that amount, \$21 million with the obvious corresponding increase in services. In addition to the additional funds, as you indicated earlier, Mr. Chairman, there has been increased flexibility in the guidelines which allowed us to include large numbers of youngsters in our programs who were previously not eligible for service.

I would like to also indicate that obviously the guidelines allowed us to include youngsters that were economically disadvantaged, physically and mentally impaired, limited English-speaking youngsters; large classifications of students who as adults traditionally would constitute a disproportionate share of the unemployed labor force.

The funds have also allowed us to create in Detroit five new area vocational centers. 50 percent of this cost is being paid by vocational education funds through the State, and we expect those area voca-

tional centers will increase our potential for delivering this service in a way that we have never been able to do previously.

There are a number of other things that I could certainly say, that have already been said, that give testimony to the fact that the vocational education picture in Detroit and other major cities is vastly superior to the time prior to 1963.

I would like to highlight what I consider the major obstacle as it relates to vocational education. Dr. Woods touched on it in his comments earlier, and that to me relates to our historic unwillingness as a people to view vocational education as an integral part of education in America. Vocational education, as Dr. Woods mentioned, does have a second-classness attachment. Even as we, as educators, speak about vocational education, we highlight people receiving service from vocational education—we talk about blacks and native Americans; we talk about the academic untalented; we talk about prison inmates; we talk about school drop-outs, and we talk about people with physical and mental impairment, or from Appalachia; or we talk about how vocational education has impacted on young people so that the crime rate has gone down—but all in all we talk about vocational education as a special kind of education for some special kinds of people who are out there totally, I think, missing the major point that vocational education should be viewed as education for all young people, many of whom are not going to enjoy the benefits of life without it.

In Detroit, I would like to simply say, that we have added a high school requirement that requires all youngsters prior to graduating from a Detroit public high school to at least have one year of a vocationally-oriented program.

One of the other problems related to vocational education improvement is the lack of the involvement by private industry in planning and carrying out vocational education programs. I just want to say again that in Detroit we have made major efforts in trying to bridge that gap. The General Motors Corporation, along with other major corporations in our city have just set aside \$1.6 million to create a preemployment program for 1,600 of our high school seniors.

Another problem, obviously, is the lack of involvement by labor organizations and trade councils. We have a number of artificial barriers that are created by labor organizations and trade councils that keep youngsters from entering into the labor force even after completing vocational education programs. Many youngsters, sensing this lack of opportunity, shy away from vocational education programs.

Dr. Davis touched upon the lack of up-to-date equipment and the tremendous cost involved in keeping equipment updated, so I will not bother to elaborate on that point, suffice it to say that this is a major problem in keeping vocational education viable in our public schools.

Another problem relates to the lack of adequate opportunity for staff participation in in-service training. Many vocational education teachers do not have the opportunity to go back into the field, spend time in business, and in industry, so that their techniques and styles are sometimes sorely lacking. A tremendous amount of re-

sources must be made available so that we keep our teachers up to date with respect to their techniques and strategy.

I have with me our expert in residence, Mr. Hart, and I will yield to Mr. Hart in one second. I just want to mention, there is a popular notion that was given in this country a few years ago about not being able to resolve social problems by throwing money at them. I think many people believe that, and I think we are seeing in our country a swing in that direction. I do think, however, that without increased funding and support so that the image of vocational education is changed in this country so that people see it. You see, our college drop-out is one of the growing epidemics in this country—college drop-out, not high school drop-out.

So, vocational education, then, should be viewed as education, potential education for all young Americans, so that they can live life and live it more abundantly.

Thank you very much.

Chairman PERKINS. Take a couple of minutes, and then we will go to the questions.

STATEMENT OF DAVID HART, ASSISTANT DIRECTOR, TECHNICAL ASSISTANCE TEAM FOR VOCATIONAL EDUCATION, DETROIT, MICHIGAN

Mr. HART. Thank you, Mr. Perkins.

I, too, am from Detroit, and we use the term "Automotive Capital of the World", and "City of Wheels", but I bring to you today a new term that we use around Detroit, the "Renaissance Center". Detroit has done a good job on vocational education throughout the years, but we have found that we do not have enough programs accessible to our youngsters. For that reason we are planning five new vocational technical centers that Dr. Chapman alluded to.

The emanating improvement of technology and the many jobs created by that demand that the schools prepare our youngsters for those new jobs. We are moving towards that now in Detroit.

Our major social and economic concern that faces us in vocational education are employment and minority representation. For the past three years 40 to 50 percent of the youths in Detroit have been unemployed. I have presented some statistics in our written testimony which point to what we have done in vocational education, but, that is not enough. As I said, it is limited as to the number of students we serve in vocational education.

Now, as far as our minority representation is concerned, our school district has 82 percent minority students. Our vocational graduates are 77 percent minority. In 1977, 72 percent of that total that graduated were young women.

Detroit is now in a state of economic change. Millions of dollars have been funneled into Detroit to expand businesses and to improve facilities. A recent study by the Joint Economic Committee of Congress stated that businesses are leaving Detroit for the lack of qualified workers. We have spoken to that demand by planning the five vocational technical schools and also, in the written report we show that we are responding to the job growth demands in the Detroit area.

In closing I would like to say that our greatest need is for the construction of five vocational schools, which will cost over \$50 million, and the \$7 million operating cost that the school district would have to produce once those schools are in operation. We also need, a recent survey shows, \$7 million to update equipment, and many millions of dollars to renovate and remodel existing equipment.

We have on the public buses in Detroit a slogan, "Moving Detroit forward". The educators and the community expect the educational arm to move Detroit forward, and we want to be a part of the "Renaissance" of Detroit.

Chairman PERKINS. Thank you very much.

[The prepared testimony of Mr. Hart follows:]

**TESTIMONY PRESENTED BY DAVID C. HART, ASSISTANT
DIRECTOR, OFFICE OF VOCATIONAL EDUCATION, DETROIT
PUBLIC SCHOOLS**

I am David Hart, Assistant Director for Vocational Education in the Detroit Public Schools. I have been in vocational education in Detroit for the past twenty-four years.

Before I speak to the effectiveness of vocational programs, allow me to give you a historical sketch of vocational education in Detroit. As you know, Detroit is situated in the Great Lakes Region, and is one of several cities in the greatest industrial complexes in the world. The emergence of the automotive industry attracted unskilled workers by the thousands to work in the factories. To this day, to some extent, a boom in the automotive industry draws masses of the unskilled to our city. The automotive worker is traditionally well paid, but once out of work, and possessing no skills other than those of the production line, he finds himself in the ranks of the unemployed.

While Detroit developed its mighty automotive industry, the city expanded with many spinoff industries. Others, of the type associated with the rapid growth of great cities, soon developed.

From the inception of the Vocational Education Acts, the Detroit schools benefitted by developing exemplary vocational programs in our high schools. As an example, our high school machine shop programs prepared students to enter into apprenticeship programs of the automotive industry, and provided skilled workers for the hundreds of small tool shops that support the industry. The automotive and other industries created a great demand for office workers, and Detroit

responded by building a High School of Commerce, which provided office workers skilled in many areas. In addition, the Detroit Public Schools began to build into each of its high schools vocational departments with six to nineteen program offerings. This was an attempt to make each high school virtually comprehensive: comprehensive in the sense that a student could attend any given school and there would find a program available to meet his or her vocational and academic needs. During this period vocational education did its job well.

As we moved into more recent times, improvements in technology created many new jobs, and raised a demand for persons to fill them. The ranks of the unskilled worker became saturated, and the unemployed auto worker found that without skills he was without work. High school graduates without vocational training could no longer depend on good jobs in the factories. Our community looked to the schools to provide training for hundreds of new jobs emanating from the new technology. Through programs in its twenty-three high schools, the Detroit Public Schools offered vocational training to thousands of youths and adults. But six vocational offerings, or even twenty vocational offerings, are simply not adequate in meeting the needs of today's high school students, nor those of adults seeking occupational training. We found ourselves in a situation in which vocational programs were not readily accessible to all students. But the community is still looking to the schools to keep pace with changing technology, to provide training for new jobs, and to provide information about jobs which are becoming obsolete.

As I perceive them, the major social and economic concerns which face vocational education are unemployment and the lack of minority representation in skilled occupational fields. In what manner has vocational education been effective in dealing with these issues? In Detroit, employment is ranked as the greatest economic concern of the day. For the past three years youth unemployment has surpassed the 40 percent mark. While our programs do not serve the number of youths that we would like, those who have completed vocational programs have experienced marked success. In 1977, 72 percent of vocational education program graduates in the Detroit school district found employment. Figures for the State of Michigan similarly reflect a high percentage, with 87 percent of vocational education graduates obtaining employment.

Needs assessments are an integral part of vocational education, and result in the ability to provide skilled people in the areas where occupational needs exist. The State of Michigan annually ranks programs on the basis of the employment opportunities they provide within the state. Programs with the greatest employment opportunities receive the highest vocational reimbursement. In addition to the needs assessment, a yearly follow-up study of Detroit's vocational graduates is conducted. This reflects short-term changes in employment opportunities. A listing of some of the programs offered in the Detroit schools, along with the percentages of graduates employed from each program, follows.

<u>Program</u>	<u>Percentage of Graduates Employed</u>
Auto Mechanic	94
Clerk Typist	70
Cosmetologist	70
Distributive Education Worker	72
Electrical Occupations Worker	85
Food Management & Production Service Worker	66
General Office Clerk	73
Machine Shop Worker	93
Nurse Aide	71
Stenographer	76

Minority representation in certain occupational areas has been a long-standing social concern. Efforts to achieve minority representation have often been criticized as promoting lower standards. Contributing to this problem has been the general lack of qualified minority youths available to fill job vacancies. To remedy this situation Detroit has enlisted the assistance of industry and labor leaders and representatives from the skilled trades to plan the training programs for five court-ordered vocational technical centers.

The school district is currently comprised of over 80 percent minority students. Enrollments in Detroit's vocational programs reflect a large minority group representation. Approximately 77 percent of the 1977 vocational graduates were minority youths, and 72 percent of the total were young women.

There are a large number of minority students enrolled in vocational programs who are learning skills that would not normally be accessible to them. Some programs falling into this category are aero mechanics, sheet metal, carpentry, graphic arts, and business machine repair.

Another concern in vocational education has been the need for opportunities for our students to participate in youth entrepreneurship. Vocational programs such as the Pepsi Cola "Learn and Earn Program" help students prepare for employment and learn rudimentary business management skills. The fifteen hundred Detroit Public Schools students who participate in vocational co-op programs develop skills which better prepare them for the working world. Vocational curricula are designed to include courses which prepare students to understand business economics and to manage small business concerns. Courses in electrical repair, welding, food management, child care, landscaping, photography, cosmetology, and tailoring enable graduates to start their businesses without further training and with a relatively small capital investment.

Detroit is currently in a state of economic change. Millions of dollars have recently been funneled into the city to expand businesses and rebuild facilities. The economy has been strong and predictions are favorable for business growth. A problem, however, was brought to light by a recent study by the Joint Economic Committee of Congress which stated that employers are leaving Detroit because of a lack of

qualified skilled workers. At the present time the Michigan Employment Security Commission (MESC) reports that, in the Detroit area, manufacturing jobs showed only a 2.1 percent increase while non-manufacturing and government employment rose by 19.0 percent and 13.5 percent respectively. The Michigan Employment Security Commission further reports that the high-growth occupations for the Detroit Standard Metropolitan Statistical Area are:

- * Health Technicians and Technologists, Health Service and Medical Workers
- * Computer Specialists
- * Secretaries and Typists
- * Protective Services Workers
- * Buyers and Financial Workers
- * Construction Crafts Workers
- * Food Service Workers

An article in the Detroit News for February 25 supports these occupational growth predictions. A copy of the article accompanies this paper.

The Detroit School System has addressed itself to this predicted job growth by planning five vocational technical centers which include major program thrusts in the construction trades, food services, and health occupations. Expansion of vocational programs in Detroit would result in the training of graduates to fill these positions. In addition, Detroit adults will have an opportunity for training in evening vocational programs.

Detroit currently has many exemplary vocational programs that are federally funded. Unfortunately, we do not have the facilities to accommodate all of the students who are interested in enrolling. Examples of these programs are the Senior Intensified Program for office and distributive education, which has consistently placed 100 percent of its graduates; the Chadsey High School foods management program, which has produced many of the top chefs in the Detroit area; and the Aero Mechanics High School program, which produces licensed airframe and power plant mechanics at the only secondary aero mechanics high school in the state. In addition to these programs we have engaged in training programs with local business and industrial leaders from the Burroughs Corporation, General Motors Corporation, Chrysler Corporation, and the Engineering Society of Detroit. This initiative has spurred other groups to express interest in developing similar programs. A serious problem, however, is the prohibitive cost of providing insurance for students under eighteen years of age who are engaged in a vocational training program in an industrial setting. Since industry is otherwise willing, and we see a tremendous employment need in the skilled areas, it appears that federal assistance in underwriting insurance for these students would be a tremendous incentive for expansion of educational/ industrial cooperation.

An additional need exists for federal funds to pay employers to provide training for high school students. Detroit presently operates a program in cosmetology which uses the contracted services of local beauty schools to train high school students. Federal funding would

expand the potential for this type of shared learning. Another program which has proved valuable, but is now too expensive to operate, is the licensed practical nurse program offered through the Detroit Public Schools at the post-secondary level. The program calls for trainees to complete four months of in-school training in a Board of Education facility, and eight months in on-the-job study. Rising expenses have driven the cost of training to a level that is prohibitive without federal or state assistance. Currently an expenditure of \$125,000 is necessary to train ninety licensed practical nurses in a hospital setting. At a cost of \$1388 per trainee, this program is an economically feasible alternative to public assistance for some citizens. Additional funding could result in more program offerings. Because there has been no funding except from private sources, the L.P.N. program is scheduled to be phased out by December of 1979.

What, then, are the specific needs of Detroit? Our first priority is funds for the construction and operation of five court-mandated area vocational technical centers. Approximately \$7,027,100 will be needed annually for operating costs once the schools are open. Additional funds will result in greater student enrollments in the centers.

Detroit has spent \$500,000 to update equipment used for vocational classes in the twenty-three high schools. Current needs assessments indicate that \$7,000,000 is needed to provide for the replacement and updating of equipment to bring it to a point comparable to that of equipment used by on-the-job workers today.

Many of our vocational facilities are thirty to forty years old

and do not meet current square footage standards. Federal money is needed to alter and/or remodel these spaces.

Vocational funding for Detroit would result in increased enrollments in the area vocational schools. Students would be guaranteed the benefit of training utilizing the latest equipment. Adult vocational programs such as the licensed practical nurse training would be expanded. Evening school programs could be established in the area vocational technical centers to service adults, resulting in more efficient use of the facilities. Community involvement with the vocational programs would be fostered, thus leading to a greater understanding of the value of vocational education. Funds earmarked for shared time and employer incentives to train students would multiply the kinds of opportunities Detroit could offer youngsters. In addition, the gap between classroom training and on-the-job reality would be virtually eliminated.

SUNDAY, FEBRUARY 25, 1979

Blue collar to white

Detroit workers to feel impact of changing times

By SUSAN LEINOFF
News Special Writer

The color of Detroit's collar is changing from blue to white.

The general shift away from goods-producing into service-producing jobs, reflecting nationwide trends, is sure to have the greatest impact on Detroit's employment structure in the years ahead.

The job distribution shift has been emerging over the past decades, but advances in technology and productivity are speeding up the process. Back in 1940, 48 percent of the labor force here was employed in heavy manufacturing, the U.S. Census reported. In 1970, 37 percent of all wage and salaried workers were employed in manufacturing, and by 1977, the figure had dropped to 32 percent.

"Almost all future growth will be in service and professional-related fields, and virtually no growth in manufacturing jobs is expected," said Detroit senior city planner Larry Brown.

THE FASTEST growing sectors of the economy include health care, real estate, law, retail trade,

'Almost all future growth will be in service and professional-related fields, and virtually no growth in manufacturing jobs is expected' — Larry Brown, Detroit senior city planner.

insurance, government and banking, according to Brown.

"We think there will be increased employment in all these areas in Detroit," he said.

Compared to the rest of the country, more people are employed in heavy industrial jobs here — in the Detroit standard metropolitan statistical area — than anywhere else in the U.S. In 1978, there were 579,960 manufacturing, 903,100 nonmanufacturing and 257,900 government jobs, according to the Michigan Employment Security Commission.

However, manufacturing jobs are just not growing at the same rate as nonmanufacturing and government jobs are.

"Although total wage and salary employment increased by 12.3 percent between 1970 and 1978, there was a slight 2.1 percent increase in

manufacturing jobs," the MESC reported. "In contrast, nonmanufacturing and government employment grew by 19.6 percent and 13.5 percent respectively."

"EXPANSION in the more labor-intensive, nonmanufacturing industries was concentrated primarily in retail trade and services," said an MESC labor market analyst.

"Growth in the government sector has steadily increased since 1978 due largely to government's increased role in stimulating economic activity as well as growing demands for municipal service," he noted.

High growth occupations for the Detroit Standard Metropolitan Statistical Area (including Wayne, Oakland, Macomb, Lapeer, Livingston and St. Clair counties), recently identified in a Michigan Employment Security Commission study, present-

ed no surprises. The majority were service related. Occupational categories included:

- Health technicians and technologists, health service and medical workers (ranging from dental hygienists, clinical laboratory technicians, nurses aides to physicians and registered nurses);
- Computer specialists (such as systems analysts and programmers);
- Secretaries and typists;
- Protective service workers (including guards, policemen, firefighters);
- Buyers and financial managers (bank managers, purchasing agents);
- Construction crafts workers (plumbers and pipefitters, excavating and grading machine operators);
- Food service workers (cooks, bartenders, waiters).

DETROIT IS NOT unique, because the shift from goods producing to service producing jobs is happening everywhere.

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2-E THE DETROIT NEWS—Sunday, February 25, 1979

Workers to feel impact of changing times

Continued from Page 1E

"As total income increases, people demand higher levels of services," said Wayne State University professor Dr. John Matilla.

"After all, you only need one refrigerator and one washing machine. Once these staples are purchased, people can afford to spend more on leisure time activities, and take advantage of other professional services," he said.

Detroit may, however, be more susceptible to this trend since the region ranks as a high wage rate area. Median earnings of full-time workers are well above national averages, according to a U.S. Bureau of Labor Statistics report published last fall.

"Detroiters have been living high off the hog recently," said First of Michigan Corp. analyst Robert Eldred. "Employment and wages have been high, which has boosted demands for service-type jobs."

"Heavy industry sets the tone for the area," said a MESCO spokesman. "Limited skilled workers can make fairly high wages here, compared with other jobs that require more skill, but pay less."

Median earnings of full-time workers		
Metropolitan Area	Men	Women
Detroit	\$15,287	\$9,302
New York	13,056	9,479
Los Angeles-Long Beach	13,831	8,507
Chicago	14,544	8,630
Philadelphia	13,353	7,919
San Francisco-Oakland	16,089	9,187
Washington, D.C.	16,678	9,958
Rosine	13,421	8,352
Pittsburgh	13,734	7,577
St. Louis	13,942	7,635
Baltimore	13,617	8,496
Cleveland	13,614	7,831
Milwaukee	15,297	8,854
Buffalo	13,635	7,653

Source: U.S. Bureau of Labor Statistics

ALTHOUGH THE demand for nonskilled laborers is tapering off in proportion to other segments of the economy, analysts are still painting an optimistic picture for employment in the year ahead.

"I think Detroit is going to hold its own," Dr. Matilla said. "Detroit is so heavily dominated by the production of durable goods, that I don't see any dramatic shifts."

"It's true that more white collar jobs have been created even in the auto industry, and there's been a shift to more skilled laborers. So

this hurts the most is the high school dropout and the black male."

(The major employment problem in the city has been, and probably will remain, the black youth. MESCO estimated their rate of unemployment between 40 and 50 percent.)

"Much of the job growth has taken place outside the city, which makes it inconvenient for members of this sector to get to a job and keep it. Discrimination is still a problem," the spokesman noted.)

FOR THE REST of the population, the climate for finding work in the Detroit area now is considerably better than the weather. Employment last year reached record levels, and the metropolitan region's labor force, at 1,996,700 million, attained its highest point in history. Of this total, 1,664,900 were working. The 1978 unemployment rate, at 6.6 percent, was at its lowest point since 1973 when unemployment was 5.4 percent in the Detroit statistical area.

"The labor force in the city is not declining mainly because more of the population (women) have entered the job market," said Larry Brown.

The city is focusing its efforts on revitalizing the downtown area to

accommodate growth in office and retail space, and renovating plants to expand employment in industry.

"The challenge now facing Detroit is to smooth out cyclical swings by encouraging the growth of white collar headquarters functions and by providing means and incentives to the auto industry to construct or purchase the most modern plant and efficient equipment available," according to city plans.

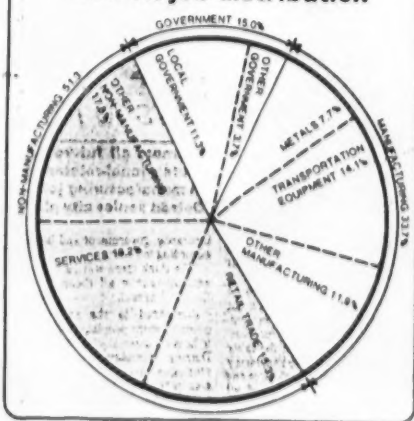
BROWN SAID that downtown revitalization efforts are progressing faster than anticipated.

"The announcement by the Rockefeller group to begin Phase II of the Renaissance Center is a statement of continued confidence," he said.

Other encouraging signals are coming from Detroit headquarters of the state's Office of Economic Development. They are currently working with 106 firms — with the potential of 11,500 new jobs — who are seeking to expand or relocate in the region.

"Right now our office is extremely busy, and winter is our slack season," said Detroit regional director Al Bogdan. "There is also a lot of activity happening without our assistance."

Detroit job distribution



Chairman PERKINS. Mr. Goodling has to leave, and I am going to call on him first. We are going to restrict everybody to about six minutes in the first go-around, and then any members who want to stay can have all the time they want.

Go ahead, Mr. Goodling.

Mr. GOODLING. Thank you, Mr. Chairman, I will be as brief as possible.

First of all, Mr. Hart, do not forget to include Detroit as being a political convention center.

[Laughter.]

Mr. HART. Thank you very much.

Mr. GOODLING. I am not sure who may want to answer this question. I think the most constructive thing that is happening in the country on the national level at the present time, is talk about a national competency examination. That scares me to death, having been an educator for 23 years.

What do you people in the vocational education field, feel about that possibility, and what effect it may have so far as vocational education is concerned?

Dr. BOTTOMS. Congressman, in the field of vocational education we have long had to deal with competency exams in a number of fields. In a number of fields it is required that people be licensed, that they pass those license exams. In addition, we deal with the area of competency in terms of our people having to demonstrate in the work setting that they have the skills to hold down that job, and to be productive. The meeting of tests of competency is nothing new to this field. We would not want to see a single set of competency tests passed nationally in that context, but efforts in this field over the last several years, many of the States have moved to develop competency exams in their own States for this field. We would see the Federal role one of helping States and local communities to specify the competencies and move in that direction.

Mr. GOODLING. There was a mention of more money. Of course, you realize there are a lot of State and local politicians who are making a lot of hay these days, pointing fingers at the Federal government, while they have the other hand outstretched to the Federal government. It is going to make it very difficult. Even some governors, I believe, are in the business of making political hay along those lines.

I understand from the staff and from the chairman that about \$600 million out of \$10 billion is what comes to vocational education from the Federal level. I would be the first to agree that 25 percent of that \$10 billion would be better spent on vocational education than it is spent on many other programs in which we are involved on the Federal level. I would be happy to work with anybody to try and move it in that direction; I think we would be ahead of the game.

Dr. Wood, in the case of Boston, I think, you have indicated that there are 8,000 in vocational education, and there should be 15,000, I am assuming the reason there are not more is because of facility problems, money problems, etc. Do you also, then, at the same time have a decline in your student population, your overall student population?

Dr. WOOD. Oh, yes, Mr. Congressman. The decline in the last

four years was from 90,000 to 70,000. This year it stabilized.

Mr. GOODLING. What is the problem then, the difference between the 8,000 and the 15,000 as far as vocational education?

Dr. WOOD. Primarily because the student body of Boston is 39 percent white, 45 percent black, 17 percent Hispanic, with the balance in four other ethnic groups has traditionally been a system that concentrated on so-called general education. It neglected vocational education. It neglected its facilities and it had the basic attitudinal problem that if someone went into vocational education and not regular education, that they were second class. So, in addition to that there was a persistent pattern in the '60s in desegregation and in the segregation of vocational education. That further turned the attitude that way.

I think we are now coming to realize that the vocational educational pattern is of equivalent worth and merit, and that it is the way in which a contemporary, competent student body should move. So we are playing "catch-up" football on the one hand; we are playing attitudinal change on the other, and we are trying to adjust to a composition of the student body radically different than ten years ago.

Mr. GOODLING. I wanted to make sure, Mr. Hart talked about five new buildings, with the decline in enrollment. I want to make sure we do not get into the problem we now face, both in the college and the secondary level, of an awful lot of buildings that were built in the '60s, a sudden decline in enrollment, and a lot of expensive vacant buildings.

Dr. WOOD. I think that is true, Mr. Goodling, and the thrust of my remarks, and certainly the strategy of the department now, is not to anticipate large growth, although in the Boston instance our capacity to recapture students is likely to be sizable in the next years ahead. But the effort is to shift priorities, and it is that shift in priority to voc.-ed. and its facilities, and its upgrading, that we are committed to now.

Mr. GOODLING. I have some other questions, but I will ask one last question. Last October, in a letter to the conferees on the Labor HEW Appropriations bill, Secretary Califano sent a rather amazing letter that I imagine all of you are familiar with. I would like to have you react to it.

As I remember, in his letter he said that one of the least effective programs administered by HEW is vocational education. Has he offered any explanation to you folks for that statement? Do you know the basis for his evaluation, or HEW's evaluation, or are you not familiar with that letter?

Dr. BOTTOMS. Yes, sir, we have heard about that letter, Congressman. The Secretary's explanation to the American Vocational Association was to the effect that he was misinterpreted on the effectiveness. He did not mean to say that vocational education was ineffective, but that the State and local governments were putting up so much money that the Federal government could not control it with the small amount of Federal funds going in. That was the essence of his statement back to the association.

Mr. GOODLING. You would not like to have the Federal government involved?

Dr. BOTTOMS. We would like for the Federal government to

maintain its partnership role as a minor partner, with increasing rather than decreasing support.

Dr. WOOD. But interestingly enough, the Federal government does have its specific, historic responsibility from 1916 further in vocational education. I am not sure Secretary Califano was then aware of that. Mr. Califano's eloquence at times makes one almost not examine his logic.

[Laughter.]

Mr. GOODLING. Thank you, Mr. Chairman.

Chairman PERKINS. Mr. Williams?

Mr. WILLIAMS. Thank you very much, Mr. Chairman.

Any of the gentlemen, or the lady, may wish to respond to this. My question concerns the completion rates, either within your States—for those of you who represent a State—or within your own institution, the completion rate of those students who walk in the door of a vocational school or technical institution. By completion rate I mean, what percentage of those who enter and complete the individually prescribed plan of curriculum.

Dr. BOTTOMS. Dr. Davis, would you respond?

Dr. DAVIS. Mr. Williams, in our particular case you would have to look at that statistic in two ways because, as I have tried to point out, a number of our population are coming in for retraining and upgrading, so, they do not complete a degree program as such.

Of the ones that come in with an intent to complete a degree program, we graduate about 75 percent of those who enter. I do not have at my disposal here today the statistics as to how many of those go to work.

Mr. WILLIAMS. What percentage of those seven, or eight out of ten that complete find permanent employment? I would define employment as being a job that is maintained, for six months.

Dr. DAVIS. In our particular case, our six-month follow up studies in Wisconsin show that on a state-wide average we are running 94 percent placement and 90 percent of them are staying in the State of Wisconsin.

Mr. WILLIAMS. So, in your particular situation, of ten that walked in the door, six end up holding a job. Does 60 percent seem to be about right for the other States?

Mr. HUFFMAN. In our particular area—and I cannot speak for the State of Kentucky—but in the Bowling Green area there are approximately 80 percent that finish the courses when they start them.

Mr. WILLIAMS. Mr. Chairman, if I may ask one more question. I know the time is up. Let me ask a question about the planning process that you have in your various institutions or States. How do you assess the educational needs of the student target population, the potential student population? How do you assess in order to change your curriculum and up-date it. How do you project the needs of industry to know what curriculum to develop for those students? We have trouble with that in my State of Montana, and we need some help. I was wondering if you could tell us how you do it.

Mr. GALLOWAY. Congressman, I think we all have troubles in assessing students' needs. Primarily, as I indicated earlier in the testimony, annually we survey the students, and periodically we

survey the parents as well as employers. We do much better in projecting industrial needs. We do that in cooperation with the State Department of Labor, as well as our business-economic department, as well as the local governmental affairs. Only recently, in the last two years, have we been able to bring these groups together to do some of this type of planning because of the concern state-wide in the State of Illinois of our loss of industry and business to other States.

So, we have that concern. We have now been able to bring business and industry together, the representatives the local level this is done through advisory committees within the programs we have. Every local institution that offers a program must have some type of an advisory group representing primarily business and industry.

Dr. BOTTOMS. I may also, if I may, respond to that question, Congressman. Many of the vocational and technical schools across the country have established in the last few years excellent assessment processes, created counseling as part of the intake process to work with the students in developing kind of a current education plan.

Secondly, we have about 18 States that have joined together, using an approach developed by the Air Force, and using a sampling technique that is very fine, that incumbent workers are actually using, and they have now completed this in over 60 different major program areas. Their intent is to finish over 150. It is an area to keep our curriculum in tune with what is needed.

Third, most of the States use Federal dollars, particularly those dollars for improvement activities, to conduct occupational surveys to look at what the demands are as part of this act in terms of the arrangements between the State board of education and the Labor Department. We are now beginning to get the framework to get better data from the Department of Labor.

You do not only ask the question of what jobs are going to be available in a community, but you have to sit down with a banker, transportation people and the other people, and ask the question, what jobs do you want in this community because many times in many places of this nation you sometimes prepare people in order to cause industry to locate, to begin there. There are some great stories, and if time permitted, I would like to tell you about that.

Mr. WILLIAMS. Thank you, Mr. Chairman, just an editorial comment. I have found in the seven or eight years that I have been involved in vocational education that assessment of need is more a black art than a science.

Thank you, Mr. Chairman.

Chairman PERKINS. Mr. Buchanan.

Mr. BUCHANAN. Thank you, Mr. Chairman.

I am glad Bill Goodling asked you to clarify Mr. Califano's statement because I was going to begin by asking you if you are all ineffective, or just some of you.

[Laughter.]

Mr. BUCHANAN. One of the immediate results, unfortunately, of that "ineffective" statement was the cut in funding for programs of national significance from over \$25 million to \$10 million, I would like to have your comments. It seems to me that this militates

against the most effective use of the remaining \$600 million in Federal funds. I would love to have your comments on the cut in that fund.

Dr. TAYLOR. I appreciate that question, Congressman Buchanan. This is true, and it relates back to the prior question of Congressman Williams. One of the major sources of improved occupational information, both for individual career planning and choice, and also for program planning, grows out of the activities of the National Occupational Information Center and Coordinating Committee, and the State level.

Additionally, research and development, evaluation activities, things that are designed to improve the quality and character of vocational education programs are wrapped up in this—our ability to share exemplary developments, to take good activities developed in Alabama and see that they are installed and used throughout the South, are tied up in these kinds of activities. If we end up with the same level of appropriation for the second year, we are literally wiped out.

We have a kind of "survival strategy" over this one year, but it is just imperative that we get back to the full five percent.

Mr. BUCHANAN. Thank you very much. Does anyone else have a comment on that?

I think Secretary Califano indicated he had more than a billion dollars to spend from his highly efficient and effective Department on Fraud, Waste, and Abuse; perhaps we can get some of that money and devote it towards vocational education.

Ms. KELLEY. I would like to know, what about male participation in your program?

Ms. KELLEY. About the increase in?

Mr. BUCHANAN. About where that stands.

Ms. KELLEY. I can speak for my own State, and I can speak from the intent of the State Supervisors Association. It has grown tremendously. I think, in addition to the importance of just the fact that they exist, there has been a great deal done to make the learning climate appropriate. I think any time that you move a new group into a non-traditional area it is most important that you make the learning climate appropriate to that group of students.

We have done a great deal with teachers and administrators to help them improve the physical settings, or environments that these programs are conducted in, so that males feel comfortable in a setting that they have not traditionally been enrolled in, in the past.

I represent a State that probably, in some ways, is as conservative and traditional as many other States, and we think that the increase from one percent in a seven-year period to a 23 percent increase is fairly remarkable.

Mr. BUCHANAN. That is quite remarkable.

Dr. BOTTOMS. Mr. Congressman, I would like to add, nationwide, in '72 we had 287,000 males in consumer and homemaking, and in 1976 that had grown to 947,000.

Mr. BUCHANAN. It is just a fact of life that if mothers become ill and children depend on fathers, and sometimes fathers become single parents—I am glad you are making some progress in that area, and perhaps future generations of children will not suffer like

mine do every time their mother becomes ill.

Thank you. Thank you, Mr. Chairman.

Chairman PERKINS. Mr. Kogovsek.

Mr. KOGOVSEK. Thank you, Mr. Chairman.

This is really not a question, but I just want to reiterate and bring attention to the point that the gentleman from Montana makes in regard to making sure—and I know you are doing it because of your answer—that you are constantly assessing where the needs are for vocational education because higher education in general, at least in my opinion, has done a poor job. In the whole country we are turning out too many teachers. I think we have plenty of teachers right now, and yet, we keep turning out more, and more, and more teachers and for some reason we are not in control of that situation. That is true in a lot of other areas.

Dr. TAYLOR. That is not true of vocational teachers, we have severe shortages of vocational teachers. One of the elements of the programs of national significance is to sponsor activities that take certificated teachers who have been trained for other areas where there is a surplus, and where they have the necessary occupational skills, to convert those.

Mr. KOGOVSEK. I certainly was not talking about vocational teachers. I was talking about English teachers, history teachers. Teachers are, at least in Colorado, being turned out by the thousands as far as history, English, and everything else, and they cannot get a job. Yet, we keep turning them out.

I would hope, and I seem to get the impression that you are, and you do get better control of that situation.

Mr. HUFFMAN. Mr. Congressman, going farther on the remarks that Mr. Williams asked and you asked a while ago, in our area, when we started this program, when our chairman and many others saw the writing on the door that they must do something to help the people that were not going to hang the beautiful plaque on the wall that they graduated from something. I know, when we went to work on it, we were outcasts to a certain extent because we were common people—everybody must have a degree.

So, when we started, when everybody opened up and the light came out and they could see this shining light of what this meant, this is an investment in the youth.

You asked, Congressman Williams, how did we arrive at the programs. In 1961 we started, in our area, and our one word is "diversification" because if we have problems in one category of our economy it will not affect the other, if something happens, whether it is labor or just the economy as a whole, bad business, or what have you.

So, I think, frankly, the letter I read from our director of Industrial Development for the State of Kentucky, stating that we are going to have to continue pushing for these things because we are gradually losing a lot of our manufacturing facilities to overseas, and we are going to leave many of our people unemployed. So, we must go faster than we have been going to create this.

Now, to find out what we need, I serve on a vocational board or two, I also serve, Mr. Buchanan, on your TRVA, which is headquartered in Decatur, Alabama; I am on that board, I have to organize it. That, too, has created and is creating many jobs, if

nothing else, from the Tom Bigby Waterway, which people have tried to stop. Many people, whether it be in the CETA programs, the vocational education, that angle, they are going forward and getting jobs. Otherwise, if they were not trained in how to operate big equipment, they would not be able to get the jobs.

But we send out forms, we have seminars with our manufacturers in our area. When you say, "We want to diversify", what are we looking for? So, they tell us what we need or what they need, and we communicate. I think that is one of the problems, there are so many areas that are not communicating with their industry; or they are not communicating with their people in general.

So, we have have written reports from hundreds and hundreds of people what can be best done to help you in this community. I think communication is quite important.

Mr. KOGOVSEK. Thank you, Mr. Chairman.

Dr. CHAPMAN. I would like to make one comment, if I may, that relates back to something that has been said earlier. The reason why so many people are being moved through the institution in spite of the fact that there are no jobs and yet, they are still coming through. I think it is related to our values that simply suggest that somehow a teacher is a more worthy person by virtue of being a teacher, than an electrician is, you see. Until we turn that around—because I think the information that these people are going through these institutions is rather up-to-date, they know the trend, they know the employment trends. But somehow we have told them that it is more worthy to be a lawyer, it is more worthy to be a teacher. In spite of the fact that there is no job out there, you are still a better person, while we need electricians, and pipe fitters, and other people.

Dr. Woods. Mr. Congressman, I might just add, in my written testimony I talked a little bit about the Boston experiment with the Trilateral Council, which are 22 businesses in the city, paired with particular schools, and now, with the Private Industrial Council. We are beginning to get from industry some Boston-oriented, realistic job projections. There is a limit to that because of the reluctance of many of the industries to share their projections if they are in a competitive posture.

I will also be able to provide for the record the latest analysis we have on projections by industry and occupation, that the school department and the city prepared. I would make the point again that we were forced into that effort of economic analysis on our own precisely because DOL BLS techniques and methodology are incapable of relating effective projections to a city or a metropolitan area. But I think there is substantial work going on in that field.

Chairman PERKINS. Are there any further questions, Mr. Buchanan, Mr. Williams?

Mr. BUCHANAN. No further questions.

Mr. WILLIAMS. No, Mr. Chairman.

Chairman PERKINS. Let me thank all of you for excellent testimony this morning. Naturally, I am interested in the welfare of vocational education. I want to see it go forward. You are receiving such a small percentage of the total funding of all educational programs, I think it behooves us all to work together and try to obtain more adequate funding for vocational education this year. I

certainly want to do everything I can do to help you, and I think the entire committee feels the same way. Thank you.

Dr. BOTTOMS. Thank you, Mr. Chairman and committee members.

Chairman PERKINS. We will stand adjourned subject to the call of the Chair.

[Whereupon, at 11:15 a.m. the subcommittee adjourned, to reconvene subject to the call of the Chair.]

[Additional material submitted for the record follows:]

NORMAN Y. MINETA
MEMBER OF CONGRESS
1ST DISTRICT, CALIFORNIA

COMMITTEES:
PUBLIC WORKS AND
TRANSPORTATION
BUDGET

Congress of the United States

House of Representatives

Washington, D.C. 20515

February 16, 1979

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Hon. Carl D. Perkins, Chairman
House Education and Labor Committee
Subcommittee on Elementary, Secondary and Vocational
Education
B346C Rayburn House Office Building
Washington, D.C. 20515

CM:
Dear Mr. Chairman:

Enclosed is a copy of a letter I recently received from San Jose City College concerning the Vocational Education Data System.

I would appreciate knowing if your Committee will be considering this issue, and if so, respectfully request that Dr. Ohanneson's letter be included in the official record.

Thank you for your consideration.

Sincerely yours,

[Signature]
NORMAN Y. MINETA
Member of Congress

NYM/sjd/w

2100 Moorpark Avenue
San Jose, California 95128
(408) 298-2181

Clyde Harrick, Dean
Albert E. Solomon, Assistant Dean
Greg S. Ohannesson, Assistant Dean

SAN JOSE CITY COLLEGE

Office of Instruction

RECEIVED

January 17, 1979

The Honorable Norman Mineta
House of Representatives
1245 S. Winchester Blvd.
San Jose, CA 95128

RECEIVED
SAN JOSE CITY COLLEGE
SAN JOSE OFFICE

Dear Sir:

As a vocational administrator I am very concerned about the prospective negative impact of the Vocational Education Data System upon the work load of vocational administrators. Of key concern to me is the proposed requirement to provide unit cost data (instruction, supplies, etc. - approximately 10 categories) for each of six ethnic categories: (White (except Hispanic), Hispanic, Black (except Hispanic), Filipino, Asian or Pacific Islander, American Indian) for each of our vocational programs.

Let me explain. We can generate program enrollments by ethnic status only if students indicate their ethnic status upon enrollment. Many decline to so state.

Next, even if we have that ethnic data, the assignment of a proration of instructor, supply, etc. costs to each ethnic group appears to be a meaningless and pointless and time consuming exercise. A simple representation of percent of ethnicity should suffice.

Since such specified data would be derived only by multiplying ethnic percentages, no true representation of extra educational effort or benefit for specific ethnic groups could be determined.

The added burden imposed by this form of proposed VEDS on top of our Proposition 13 would cause administrative reductions to be staggering. I believe this is the sort of thing that prompted Proposition 13.

Finally, I have never heard that this detailed data would be used in decision making at the Federal level. Determination of bias or emphasis can be just as easily determined by ethnic percent by program (White (except Hispanic) 50%, Hispanic surname - 20%, etc.) as by detailed cost figures.

I have heard that the Vocational Education Data System is being discussed in the Senate Human Resources Committee and the House Education Labor Committee. I urge you to support efforts to reduce the collection of unnecessary and probably unusable type of information. Thank you.

Sincerely,

Gregory S. Ohannesson
Gregory S. Ohannesson, Ed.D.
Assistant Dean of Occupational Education

cc: W. Morris
O. Roemich
R. Goff
R. Feinour
M. Harrison
E. Webb

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